THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

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Nutritive Properties of the Apple.

THAT apples are valuable as food for animals, is now generally acknowledged, and their use for this purpose has, within a few years, been greatly extended, though it is probable that their relative value compared with other articles is but little understood. Few exact or reliable experiments have been made in feeding apples to animals, and we are not aware that much light has been thrown upon the subject by chemical investigation, till the late analyses of Dr. J. H. SALISBURY.

The late PAYNE WINGATE, of Hallowell, Maine, made some experiments in feeding pigs with apples compared with potatoes. Both the apples and potatoes were boiled, or rather stewed, separately, and about four quarts of oat and pea meal mixed with each bushel, at the time the cooking was finished—the meal being intimately incorporated with the potatoes and apples while they were hot, and the mass left to ferment, slightly, before it was fed to the pigs.

Two pigs of the same litter, and as near as practicable of the same weight, were taken; one was fed for a week on a given quantity of the cooked potatoes per day, and the other on the same quantity of apples. At the end of each week the pigs were weighed, and the food was reversed—the pig to which potatoes had been given, was fed with apples, and the one which had received apples was fed for the next week on potatoes. This course was continued through several weeks—the food of each pig being changed every week. The result was, that the apples proved to be fully equal, or somewhat superior to the potatoes. In this instance the apples were mostly sweet, and they, as well as the potatoes, were nearly in a ripe state.

On another occasion, Mr. W. experimented with sweet, compared with sour apples, in various ways. He found that when they were fed *raw* to swine the sweet apples were preferable—the animals ate them better, as the sour apples seemed to make their teeth sore;—but when both were cooked and mixed with meal in the way above described, there was no difference in the gain produced by an equal quantity of each. It should be stated, however, that all the apples used were of palatable kinds, nearly ripe; and that unripe, and ill-flavored apples are known to be less relished by stock, as well as less nutritive. It is probable, also, that when sour apples are eaten raw, and in considerable quantities, the animal may take into the stomach too large an amount of acid, which may tend to derange the digestive organs. This objection would be chiefly obviated by cooking, and the saccharine fermentation, by which the pulp loses much of its acid and becomes nearly sweet. It does not appear from analysis, that the amount of actual nourishment is much greater in sweet than in sour apples. (See comparison of the analyses of the Roxbury Russet and Tolman Sweeting.)

Mr. Wingate practiced fattening swine for several years, on food composed principally of apples. The animals attained good weights, and the pork was solid and of excellent quality. In other instances, we have known apples fed raw to horses, cows, and other stock through the winter, with much advantage. For using in this way sweet apples would probably be best, and they should be such as will keep till spring. They may be stored in a cellar under the barn, or in the bottom of the hay-mow,—a proper place having been left for that purpose when the hay was put in. They will be more likely to be injured by heating, than by freezing. They will seldom freeze in such a situation as is mentioned; and if they should be touched by frost, their nutritive properties will not be much lessened, if they remain in a dark place, and where they will thaw slowly.

A peck of apples a day, fed to a cow, has been found to add more than a quart to the daily quantity of milk, besides greatly increasing its richness, as well as improving the condition of the cow. The effect of apples is equally favorable to other stock. Horses fatten on them, and their coats assume a brilliancy which hardly any other food will give them. For all stock they answer a similar purpose as vegetables, in preventing costiveness, which is likely to ensue from the exclusive use of dry food; and in this way, and by the nutriment they contain, they contribute much to the animal's thrift.

An impression prevails that apples will dry up the milk of a cow. This idea has been imbibed either from the effect produced on a cow by eating a very large quantity of apples at once, by which surfeit and fever were brought on, or from the trial not being properly conducted till the animal had become habituated to the food. The ill effects attributed to apples would have occurred with any other rich food, as any kind of grain, potatoes, or other vegetables.

A fair average product of an acre of orcharding, in good bearing condition, may be estimated at two hundred to three hundred bushels a year; and at this rate, we doubt whether so great an amount of animal nourishment can be obtained from the same extent of land, in proportion to the expense, by any other crop. We should not hesitate, therefore, to recommend the cultivation of the apple as food for stock.

It will be interesting to compare the result, obtained by Mr. Wingate in feeding swine with apples, with the results of the analyses made by Dr. Salisbury, and in doing this, we shall find a more general correspondence than would, perhaps, have been anticipated. The fat producing properties of

the apple, according to the analyses, do not essentially differ from those of the potato, though the apple has the advantage of containing a greater proportion of nitrogenous matter.

Dr. S. gives the inorganic and organic analyses of six different kinds of apples, viz: Tolman Sweeting, Swaar, Roxbury Russet, R. I. Greening, Kilham Hill. We extract the table showing the *mean* of those analyses, as follows:

Inorganic or ash analysis.

	With carbonic acid.	Without carbonic acid.
Carbonic acid	15.210	.....
Silica	1.362	1.637
Phosphate of Iron	1.336	1 593
Phosphoric acid	11.252	13.267
Lime	3.442	4.199
Magnesia	1.400	1.669
Potash	31.810	37.610
Soda	20.810	24.799
Chlorine	1.822	2.169
Sulphuric acid	6 062	7.229
Organic matter thrown down by nitrate of silver	4.890	5.828
	99.396	100.000

Proximate, or organic analysis of the same varieties.

	1000 parts of fresh apple.	1000 parts of dry apple.
Cellular fibre	32.03	190.879
Glutinous matter with a little fat and wax.	1.94	11.463
Dextrine	31.44	186.805
Sugar and extract	83.25	497.627
Malic acid	3.17	19 585
Albumen	13.79	83.720
Casein	1.64	9.921
Dry matter	167.26	1000.000
Water	826.64	.....
Loss	6.10	.....
	1000.000	.....

Dr. S. observes, that the analyses were calculated both with and without the carbonic acid. It was necessary that they should be calculated without it, in order to show the real composition of the organic matter of the fruit. "The carbonic acid is formed during the combustion of the organic matter, and hence cannot be regarded as a constituent part of the apple, except in very minute quantity."

An interesting comparison of the properties of a sweet and sour apple, is given in the following table, showing the results of the organic analyses of the Tolman Sweeting and Roxbury Russet:

	TOLMAN SWEETING.		ROXBURY RUSSET.	
	1000 parts of fresh apples.	1000 parts of dry apples.	1000 parts of fresh apples.	1000 parts of dry apples.
Cellular fibre,	33.90	190.620	31.20	173.623
Glutinous matter with a little fat and wax,	3.52	19.793	1.70	9.460
Dextrine,	28.96	162.890	36 22	201.558
Sugar and Extract,	99.05	557.178	90.27	502.337
Malic Acid,	2.50	14.061	3.23	17.975
Albumen,	8.97	50.452	15.03	83.639
Casein,	0.89	5.006	2.05	11.408
Dry Matter,	177.79	1000.000	179 70	1000 000
Water,	815 20	.....	813.45	
Loss,	7.01	.....	6.85	
	1000 00	.....	1000 00	

These analyses were made in the months of March and April, and excepting the Tolman Sweeting, which was rather shriveled, the varieties were in good eating condition. Dr. S. observes that besides the substances above mentioned, the apple contains a small quantity of tannic and gallic acids; the proportion being greater in the russets than in any other varieties examined, and that to those acids is owing the astringency so striking in some kinds, and which is easily detected by the black color given to a knife or any iron substance when thrust into them. In conclusion he offers the following useful observations:

The ripe apple is rich in sugar and a body analogous to gum, called *dextrine*, which has the same composition as starch; but differs from it in being soluble in cold water, and not colored blue with iodine. It derives its name from the action of its solution on polarized light, it causing the plane of polarization to deviate to the right; hence its name —*dextrine*.

Dextrine and gum should not be confounded with each other. They differ very materially in many respects. The former possesses the property of being converted into grape sugar by sulphuric acid and by diastaste, while the latter does not. Dextrine belongs to the class of bodies which are susceptible of nourishing the animal body. All the starch taken as food is converted into dextrine before it is assimilated by the system. The acids of the stomach possess the property of converting starch into this body.

In the fresh apple, 100 lbs. contain about 3.2 lbs. of fibre; 0.2 of a lb. of gluten, fat and wax; 3.1 lbs. of dextrine; 8.3 lbs of sugar and extract; 0.3 of a lb. of malic acid; 1.4 lbs. of albumen; 0.16 of a lb. of casein and 82.66 lbs. of water.

In the dry apple, 100 lbs. contain about 19 lbs. of fibre; 1.1 lbs. of gluten, fat and wax; 18.7 lbs. of dextrine; 49.8 lbs. of sugar and extract; 2 lbs. of malic acid; 8.4 lbs. of albumen, and 1 lb. of casein.

In the fresh potato, 100 lbs. contain about 9.7 lbs. of starch; 5.8 lbs. of fibre; 0.2 of a lb. of gluten; 0.08 of a lb. of fatty matter; ¾ of a lb. of albumen; 0.45 of a lb. of casein; 1.27 lbs. of dextrine; 2.64 lbs. of sugar and extract, and 79.7 lbs. of water. In the dry potato, 100 lbs. contain about 48.5 lbs. of starch; 29 lbs. of fibre; 1 lb. of gluten; 0.4 of a pound of fatty matter; 1.25 lbs. of albumen; 2.25 lbs. of casein; 6.32 lbs. of dextrine; and 13.2 lbs. of sugar and extract.

By comparing the composition of the apple with that of the potato, it will be noticed: First, That the former contains, according to the above analyses, about three per cent more of water than the latter. Second, That dextrine and sugar in the apple take the place of starch, dextrine and sugar in the potato. Of the former, 100 lbs. of good fruit contain of dextrine, sugar and extract 11.4 lbs; the latter has, in the same amount of fresh tubers, 13.61 lbs. starch; dextrine, sugar and extract, 68.5 lbs; in the same quantity of dry potato, there is of starch, dextrine, sugar and extract, 68.02 lbs. The above proximate principles are the main bodies in the apple and potato which go to form fat. In the aggregate amount then of fat producing products, it will be seen that the apple and potato do not materially differ. It would be natural, however, to infer that 50 lbs. of dextrine and sugar would, if taken into the system, be more likely to make a greater quantity of fat in a given time, or at least to make the same amount in a shorter period, than an equal weight of starch, for this reason, that the two former bodies, although nearly the same in composition with the latter, yet are physically farther advanced in organization, and hence probably approximate nearer the constitution of fat. If this view be taken, then the apple, if of good quality, may be regarded equally if not more rich in fat producing products than the potato. Thirdly, that the apple is richer in nitrogen compounds than the potato; 100 lbs. of fresh apple contain of albumen 1.38 lbs.; the same

amount of fresh potato has ¼ of a lb.; 100 lbs. of dry apple contain 8.37 lbs. of albumen and an equal weight of dry tubers has 1¼ lbs.; 100 lbs. of fresh fruit contain of casein 0.16 of a lb., and an equal weight of fresh tubers, 0.45 of a lb.; 100 lbs. of dry apples have 1 lb. of casein, and the same amount of dry potato contains 2¼ lbs. Hence it will be observed that 100 lbs. of fresh apple contain of albumen and casein, 1.54 lbs.; and the same quantity of fresh potato 0.7 of a lb.; 100 lbs. of dry fruit have of albumen and casein 9.37 lbs., and an equal amount of dry tubers, 3.50 lbs.

From the above it will readily be seen that in albumen the apple is richer than the potato, while in casein the reverse is the case. That the aggregate amount of albumen, casein and gluten in good varieties of the apple is more than double that of the same bodies in the potato; hence the former may be regarded richer than the latter in those bodies which strictly go to nourish the system, or in other words, to form muscle, brain, nerve, and in short assist in building up and sustaining the organic part of all the tissues of the animal body.

Foreign and Domestic Wool.

Eds. Cultivator—This article, on the subject of foreign and domestic wool, may not be without its use, at a time when all engaged in the most prominent departments of business, appear to be zealously engaged in devising ways and means to advance their own prosperity, and when, also, every journal that meets the eye, with the exception of those devoted "*exclusively*" to the cause of religion and letters, by its able and studied articles, shows the energy, talent and capital employed to accomplish this worthy end. Certainly it cannot be considered a departure from their excellent example, if the wool grower, aroused by these circumstances to activity and vigilance, presumes to say a word in his own behalf, and to notice some of the obstacles in the way of his prosperity.

In 1841-2, I had the honor to address to the public a number of articles on this subject, which, from the importance and novelty of the facts disclosed, found their way into the public journals, and are said to have had something to do with destroying free trade in wool—practiced by an ingenious application of the maximum principle, which in 1841, admitted out of an importation of 15,000,000 pounds of foreign wool, 14,500,000 duty free.

This effort will, at least, appear pardonable, if we but for a moment glance at the vast pecuniary importance of the wool growing interest in the United States, in connection with the fact, that fine wool is now imported, subject to, upon an average, a duty of two cents per lb only—which I will hereafter explain.

The manufacturers of Boston and its vicinity, stated, (in their memorial to Congress prior to 1843,) the amount invested by wool growers of the U. States, to be $240,000,000, and Ex-Gov. Slade, of Vermont, in Congress in 1842, said the whole amount invested in sheep husbandry in the United States, exceeded $200,000,000. This is more than three times as much as the whole investment in cotton and woolen manufactures. Let us look into details a little, to see where we stand. By the census of 1840, there were about *twenty millions* of sheep in the United States, (I take it at this for convenience, though the return falls a fraction short.) Now, if we suppose our flocks to have increased 10 per cent per annum, since 1840, the number of sheep in the United States, in 1850, must be 40,000,000 at least, worth $80,000,000, and our last annual clip worth from $30 to 35,000,000, it being from ninety to one hundred million pounds. Three or four sheep will certainly require, for summer and winter keep, one acre of land, upon an average—so thirteen million acres of land are required for the support of all the flocks in this country, and at the moderate estimate of $15 per acre, including buildings, fences and fixtures, worth $195,000,000, saying nothing about labor expended in the care of sheep. We have the aggregate amount now invested in this department of industry:

In sheep	$80,000,000
" land	195,000,000
Total	$275,000,000

Good judges say the lands, &c., should be estimated as high as $20 per acre, and the sheep higher than I have above estimated them; and 10 cents a head per year, added to the above total amount, for the investment in labor for tending, feeding, shearing, &c.

It should be remembered that a cent a pound on our annual clip of wool, makes the odds to our wool growers of $900,000, and I have no doubt that our own wool is depressed in the market 10 cents per lb., by too free importation of rival wools.

Wool growing has been more profitable under the Tariff of 1846 than it would have been, had that of 1842 continued, yet it has not been sufficiently so to prevent farmers in some sections killing off their flocks of fine wooled sheep—in some sections substituting the dairy, in others, the long wooled breeds, in the expectation (mutton and lambs being in demand) of finding their reward.

This has been occasioned by the immense importation of foreign fine wool, principally from South America, east of the Andes, where *nature does every thing, and man comparatively nothing*, in the production of wool. The whole amount of wool imported in 1844, was 23,800,000 lbs., and in 1845, 28,800,000. (I take this as stated in an article in the Jan. No. of the Plough, Loom and Anvil.) A large proportion of all this wool comes from Buenos Ayres, or the Argentine Republic, and the adjoining States; the finest wool-growing region in the world, where flocks of thousands and tens of thousands, belonging in many instances to enterprising foreigners, graze the year round, roaming over vast and almost interminable plains of the richest pasturage, yet of little value compared with our pasture lands, in a climate the most favorable, where the sheep is less subject to disease than with us, and sustained at an expense of land and labor vastly below that of any portion of the United States.

I will here annex a description of such foreign wools as are generally imported into the United States, their cost abroad, and such facts in relation to each as may be important to those interested, making a distinction between the *fine and native wools*, which supplant our domestic wools in the market, and the *coarse hairy wools* which do not, but can only be used in connection with our own coarse long wool, or foreign, the hairy being used for filling in the coarsest and cheapest fabrics. The latter, (the hairy wool,) is not so much imported as it would be, because, as it appears from the official reports, it costs as much abroad as the fine and native wools, which rival our own. A dollars worth of fine wool will produce a fabric of about three times the value of that made from a dollars worth of hairy wool; therefore, practically, the duty

on the hairy wools, is three times as high as the duty on the fine wools, which rival our own; three times as much coarse being required to make a square yard of carpets, as of fine to make a square yard of a fine plaid shawl, in the manufacture of which the fine wools of South America, east of the Andes, are used to the exclusion of domestic wool of all grades, such as cloths, cassimeres, &c.

1st. Buenos Ayres' native Mestizo, or grade wools and Merino.

These wools bear the general character of the wools east of the Andes. I have fair samples before me, which successfully compete with every grade of wool grown in the United States, some of which I send you with this article.

The Buenos Ayres wools are generally imported unwashed, very dirty and burry. The fine, wastes from 60 to 70 lbs. to the 100 lbs. in washing and burring, and comes to the cards 15 *cents per lb. cheaper than our own wools of the same grade.* The expense of burring is about three mills per lb. *I have these facts from a most reliable and intelligent source.* From Buenos Ayres, (or the Argentine Republic,) we imported in 1848, 4,307,428 pounds of wool, which cost there $267,419, or about 6¼ cents per lb. This was over one-third of our whole importation that year. As long ago as 1835, great efforts were made to improve the native sheep in this region. In 1837-8, 1,100 Merino rams and ewes were imported into Buenos Ayres alone, (saying nothing of the adjoining States, where similar improvements were in progress,) under the direction of enterprising foreigners. The natives, stimulated by their example, and encouraged by resident agents of foreign and domestic manufacturers, commenced the improvements of their flocks by crossing them with the Merino, and have now made such progress in the production of fine wool, as to render it impossible for our wool growers to compete with them, under the present tariff of 30 per cent on their wool, which amounts to two cents per lb., and about 15 per cent on its value here, (all expenses being paid,) compared with that of our own domestic wool.

Indeed, one of the largest woolen manufactories in the country, which uses near two million pounds of wool per annum, a few years ago used almost exclusively domestic Merino and grade wools, now uses *as exclusively* the fine wools of the eastern part of South America. But a few years ago, this establishment alone paid about $300,000 in one year for wool in the western part of Pennsylvania, and now it buys little, if any, domestic wool, but has since bought cargoes of Mestizo wool from this section of South America, and within twelve months, I was informed by one of its agents, that they were not *using a pound of domestic wool.*

By examining, carefully, the official reports of the importations of wool from different countries, the fact will be fully established, that the wools grown in South America, east of the Andes, being all rival wools, cost not more abroad than the coarse hairy wools of Crimea, Smyrna, Syria, Africa, Chili. or Valparaiso.

The native wool of Buenos Ayres is much like, in the fibre, our common wool, perhaps not quite so soft; the fibre has a spiral curl about it, which distinguishes it from hairy wool; it takes color well; is generally dirty and burry when imported, wastes from 40 to 50 per cent in washing, and from 10 to 15 per cent in burring. It is used generally for all purposes where our common and coarse wool would be used, and comes to the cards, relatively, as much cheaper as the Mestizo. Our own river washed wool wastes before coming to the cards, about 20 to 25 per cent.

Entre Rios, Rio Grande, Monte Video, wools are about the same quality, generally imported burry and washed. They waste in rewashing and burring from 30 to 35 per cent. Cordova wool is grown about 700 miles back from Buenos Ayres, in a mountainous country, and it is free from burrs. It is generally imported unwashed—wastes about 50 per cent in coming to the cards, and is probably the best long wool imported from South America. It is longer in the fibre than my sample of Leicester or Bakewell wool from Ohio; not so long as my Lincolnshire, or as soft as either, but would be used generally for similar purposes, principally for worsted goods.

The Chilian or Valparaiso, is a long, coarse, hairy wool, imported free from burrs and dirty, wastes about 50 per cent before it comes to the cards, and is manufactured into the coarsest and cheapest goods, such as could not be made exclusively out of any grade of our wool, on account of the expense. The coarser part of the fleece, is often from 14 to 18 inches long, and very different from the wool grown on the opposite side of the Andes, and the vast pampas between them and the Atlantic.

The coarser part of the fleece, resembles more the hair on the extremity of cattles' tails, than any wool grown in the U. S. From the nature of the country and the character of the people, there is little ground to hope that such improvement will ever be made in the flocks as on the east side of the mountains, where single individuals often own from 40 to 100,000 sheep, roaming the year round over vast and fertile plains, the richest grazing region in the world, with little trouble or expense to their owners, except to shear and properly crop them. The shearing is often omitted, the wool not being worth the trouble when labor is scarce and high.

The Peruvian wool is long, coarse and hairy. It is imported unwashed, and wastes about 50 per cent in coming to the cards. The samples I have are shorter in the staple than the Chilian, free from burrs but dirty. This wool is used for the same purposes as the Chilian. Both the last named wools cost abroad, in 1846, according to official reports, made up from invoices filed at the custom houses under the oaths of the importers, the same as the Buenos Ayres and the adjoining States, from 6 to 7 cts. per lb.

The African and Syrian wools have a general resemblance. They have a reddish color, occasioned by the sands of the deserts being blown into them. They are coarse, harsh and hairy—about as long in the staple as our Bakewell, and are brittle. They are used principally for filling to negro cloths and carpets. They are spoken of in price currents, as Syrian, Bengazi, Mogadore and Barbary wool.

The Scotch black faced laid wool, is imported in small quantities. An immense quantity of it is grown on the Highlands. The sheep upon which it grows is hardy and thrives where the more delicate races would die, and makes the best of mutton when well fatted. Upon this wool the English carpet manufacturers draw for a large portion of their supply at about 7 cents per lb., free of duty, and thus they are enabled to hold in check and defeat the prosperity of our domestic carpet manufacturers.

The sheep are not housed on the Highlands, and for protecting them from the effects of the weather and storms, they are covered with a preparation of tar and grease, well rubbed on the fleece. The unlaid wool is from the same kind of sheep, on the south side of the Highlands. This sheep is housed

in cold weather. The laid wastes about 40 and the unlaid about 15 per cent on coming to the cards.

The nearer wool approaches hair, if it will take colors, the better it is for carpets, because it is more elastic, retains the dirt less, and sweeps better. The coarse hairy wools of a brittle staple, are generally used for filling the carpets and negro cloths. With this cheap material for filling, carpet manufacturers could afford to buy our own coarse long wool for warps, but inasmuch as by official returns, (the importation from Crimea and Buenos Ayres, for example,) this pays three times as much duty as the fine, according to what it will produce in money when manufactured; the carpet business is retrograde, and the demand for our coarse long wool of strong staple, very much curtailed, for it is a fact worthy of the greatest consideration, that in proportion as the coarse, brittle, hairy wool is imported for filling, (if foreign long wool is not imported for warps) a demand is at once created for our domestic long wool.

Smyrna, Salonica, and Adrianople wools, are coarse and hairy, rather harsh; staple of medium length. They are imported, washed and unwashed, and waste, in cleaning for the cards, from 40 to 50 per cent, and cost abroad about the same as the best wool east of the mountains in South America.

Crimea wool, grown in the south of Russia, and imported limed and unlimed from Crimea and the Black Sea, is free from burs, and wastes from forty to sixty per cent. Calcutta wool is much the same thing, both resembling dog's hair, more than any wool grown in this country. It is used for filling to carpets, &c.

Cape of Good Hope wool is mostly imported on the skins, called hair skins, which are valuable to, and eagerly sought by morocco dressers. The wool or hair, on nine-tenths of them, is of no value, except to masons. It will not dye or take colors. The native sheep is very large.

In taking this general survey of foreign wools, with their bearing upon the sheep husbandry of the United States, the conclusion to which I have arrived is, that all wools grown in the United States are depressed in the market from six to ten cents per lb., by the present importation of foreign *rival* wools, principally grown in eastern South America. Considering the fact that a cent a lb. on our annual clip, makes the odds to our wool growers of $900,000, this is a matter for grave consideration; and that if Congress remodels the present tariff, they should put a duty high enough on foreign *rival* wools to give our domestic wool an equal chance with them in our own markets. The immense amount invested in sheep husbandry, the little attention Congress has ever given to the agriculture of the country, and the little aid they can ever render it, under any tariff, justify the farmer in demanding of Congress, in tones not to be mistaken, substantial relief from this ruinous competition with foreign wool. A duty on any of his products, except wool, (say butter, cheese, beef and pork or grain) is as useless as a duty on ice; but that on wool is a *vital matter*. Will it be overlooked, if the tariff be remodified? *Nous verrons.* H. C. MERIAM. *North Tewksbury, Mass. June* 25, 1850.

P. S.—Since I wrote the above article, I have received from Washington the report of the commerce and navigation of the U. S. for the last fiscal year, from which I take the following:

The importation of foreign wool, the last fiscal year, amounted to 17,869,022 *pounds, and cost abroad, as invoiced,* $1,177,347, that is at an average *price of less* than 7 cents per lb. Over two-thirds of *this whole* importation, 12,603,094 lbs. *came from* Buenos Ayres, invoiced at 769,106 *dollars, that is* but a *fraction* over 6 cents per lb.

Sheep Husbandry.

DR. FITCH in his survey of Washington county, N. Y., made under the direction of the State Agricultural Society, furnishes a valuable chapter on the sheep husbandry of that section, from which we take the following, believing that our readers who are engaged in that branch of farming, will be interested and benefitted by his remarks. EDS.

ADAPTEDNESS OF THIS COUNTY TO FINE WOOLED SHEEP.—No section of our country can be better adapted for the convenient and profitable keeping of fine wooled sheep than the eastern half of Washington county. From the Bald mountain range of hills on the west, to the State line on the east, almost every farm contains a portion of interval or permanent meadow, from which hay for winter consumption is gathered; and the remainder consists of hilly upland, yielding a short, sweet, nutritious grass for summer pasturage. To the west of this tract, the level lands towards the Hudson river furnish no such pasturage; and to the east of it in Vermont, the lands become more broken and mountainous, with no intervening valleys supplying the requisite amount of meadow lands.

Most of our hills it is true are susceptible of cultivation to their summits, and at the present period, would be more profitable if given up to tillage. But although the prices of wool render its production little lucrative, it can here be grown to such advantage, that these hills now are covered with flocks, and it is probable they will so continue in all coming time.

After various intermediate remarks in regard to the statistics of sheep and wool for the county, Dr. F. observes:

THIS WILL CONTINUE TO BE A WOOL-GROWING DISTICT.—This section of country, including this county and the adjoining parts of Vermont, is currently, and so far as we are able to determine, correctly regarded as being by its climate, its inland location, and the inequalities of its surface, more closely assimilated to the kingdom of Saxony than is any other part of the American continent. Its character as a wool-growing district has been amply tested. And all things considered, it must be admitted that it has every prospect of remaining conspicuous as it now is for the number and fineness of its flocks. Naturally adapted as it is for the keeping of fine-wooled sheep, extensively introduced and acclimated among us, as this species of stock now is, and experienced in its management as our population has become, there is every probability that this will continue to be a wool-growing district, second to no other in our land.

But of this county it may confidently be affirmed, it will never be occupied exclusively in the production of wool. Agriculture will always form a large part of its business. Susceptible of easy cultivation as nearly all the lands of this county are, the relative prices of grain and of wool, will at most times, it is probable, pay better for the production of the former than of the latter. It may hence be expected that so much of his land as the farmer can till within himself, that is, with his own personal labor and that of his household, will always be under cultivation; and at the same time, a flock of sheep, requiring as it does, but little time and attention during the busy period of the year, will oc-

cupy that portion of the farm which is least convenient for tillage, and thus add an important item to the proprietor's income. This is their great recommendation. Without increasing in any sensible degree its expenses, and without interfering with and hindering its other operations, a limited number of sheep can be supported, mainly upon such portions of the farm as would otherwise be neglected and for the time valueless. And this has saved our flocks from extermination during the low prices of wool for the past few years. Having withstood this disastrous period so well, it may confidently be expected that no depression in the wool market can ever occur which will have the effect of expelling them from this district. When the price of wool is low, their numbers will be diminished and more ground devoted to agricultural operations; and whenever the production of wool is *per se* profitable, their numbers will be increased, and then also, lands valuable for cultivation will be appropriated to their maintenance. Thus, wool will always be grown here in large quantities, but its amount will be augmented or diminished according to the condition and prospects of the market.

Immediately to the east of us, the condition of things is different. Here is a large tract of hilly and mountainous land, little of which is capable of being profitably cultivated, but which is admirably adapted for the pasturage of sheep. These will here be kept in large numbers, irrespective of the fluctuations of the wool market—it being the only thing to which these extensive mountain ranges can be advantageously devoted. And the flocks there summered, will be brought down for their winter keeping, to the plains of this county, particularly the low lands towards the Hudson. This is the established management of some flocks at the present time—tracts of land in the town of Fort Edward, and other tracts twenty or thirty miles distant in Vermont, being owned by the same proprietors, the latter their pasture, the former their meadow, their flocks being annually drove in the autumn to the former, and in the spring returned to the latter. To no other business can the mountain ranges of Vermont probably ever be more profitably appropriated, and they will hence settle down into this mode of management to a much greater degree than at present prevails.

Hence our anticipations are, that the hilly district forming the eastern part of Washington county, will ever abound in sheep, deriving their summer and winter keeping from the same farm, and that the level lands of the west part of the county will be devoted largely to the growing of hay, for wintering the flocks that will be summered upon the Vermont mountains—thus keeping up the same distinction which exists in Spain, a portion of the flocks being *Estantes* or stationary, and the others *transhumantes* or migratory.

INFLUENCE OF KEEPING ON THE FINENESS OF WOOL.—On this point it is remarked, that—what the fleece gains in weight by high keeping, it partially loses in quality. This is the current opinion; though to demonstrate it, requires such a discrimination of the nice shades of difference that exist in fineness as no one among us has the requisite facilities for making. The opinion, however, is so rational as scarcely to need the evidence of an actual demonstration. High keeping cannot add to the skin of the sheep an additional number of bulbs or glands for secreting woolly fibres; it can only increase the activity of those already existing there, thus causing them to elaborate the matter of wool more rapidly; like a sieve or strainer overloaded with material, a greater quantity and of a grosser quality passes through. Hence, on the best established physiological principles, with the fact ascertained that high keeping increases the quantity of wool, it will follow that it does so by increasing both the diameter and the length of the fibers, but not the number of them. If high keeping increased only the diameter of the fibers, nothing would be gained by it, as the additional weight would then be wholly at the expense of the fineness. But it adds to their length also, we must believe, in the same ratio that it adds to their diameter. High keeping, therefore, cannot be regarded as either vain or pernicious. The only valid objection to it is on the score of economy.

EXPENSE OF KEEPING SHEEP.—As we have already seen, the annual income from sheep, of the kind of which most of our flocks are composed, has of late years, been less than one dollar and twenty-five cents each. Nay, it is known to be a fact, that many of our common flocks in some of these years, have brought their owners a return of only seventy and eighty cents to each sheep. How this compares with the expense of their keeping, we come next to examine.

The current charge for pasturage is from one and a half to two cents per week. The first of these sums is the lowest for which pasturage is ever hired and it is only upon the mountain lands adjoining us in Vermont that it can be obtained for that price. And the time required in driving and occasionally repairing hither to see to the welfare of the flock is more than equivalent to an additional half cent. Sheep are pastured somewhat more than half the year; say thirty weeks. This at two cents per week amounts to sixty cents. When pasturage is hired by the season, however, as it sometimes can be, the current charge is fifty cents. About the same result will be arrived at in another mode of estimating it. Twenty-five acres of good pasture land is regarded as the least that is adequate to sustain a hundred sheep. Such land is sometimes bought for twenty-five dollars per acre, though it is currently valued at five or ten dollars higher than this. Six hundred and twenty-five dollars may, then, purchase the requisite amount of pasture land for maintaining one hundred sheep. Thus, without taking into the account the cost of keeping up fences, &c., the mere interest on the value of the land will be forty-three dollars and seventy-five cents, or forty-three and three-fourth cents for each sheep. On the whole, therefore, fifty cents must be regarded as the lowest sum for which a sheep can be kept through the summer.

With respect to wintering. Fourteen tons of good hay is the least quantity that any one supposes the strictest care can carry a flock of one hundred sheep through the winter upon, and more than this is usually fed. The established price of hay with us, in ordinary seasons, is six dollars per ton. This amounts, therefore, to eighty-four dollars for the flock, or eighty-four cents for each sheep.

Such, from all the information I can gather, appears to be a fair estimate of the expense of keeping this species of stock. The estimate is made as low as the facts will warrant. In addition to this we have a number of minor items very variable in amount, according to circumstances, and hence impossible to reckon up with any degree of precision, such as the time spent in foddering and other necessary attentions, the cost of washing and shearing, the value of salt, tobacco, tar, spirits of turpentine and other six-penny-etceteras that are yearly required. It is commonly estimated that the in-

crease of the flock, under ordinary circumstances, more than makes good its own losses and balances these items, thus leaving the sole article of food to be paid for from the wool. The summering then being fifty cents and the wintering eighty-four, unless the sale of the wool amounts to one dollar and thirty-four cents to each sheep, the grower is parting with it for a less sum than it costs him to produce it.

Our farmers have been aware, that the prices of wool of late years, have not paid the cost of its production, and that if devoted to dairying or the raising of grain, their lands would yield a much greater income, than to be stocked with sheep. But being already skilled in sheep-husbandry, with portions of their farms better adapted for this than any other use, with flocks already on their hands, and all the facilities provided for their management, rather than incur the expense of a change, they have clung to their sheep year after year, with the expectation that a turn in the market would certainly take place, which would render the business more lucrative. A slight revival in the price of wool at this present time, is hailed as the harbinger of better times, and excites strong hopes that a brighter day for their interests is about dawning.

Short-horned Cattle.

The tribe of cattle called short-horns, has been known in some of the eastern districts of England for many years, but by most British authorities is not regarded as indigenous to the island. It was probably introduced from the continent of Europe. Thus Sir William Jardine, in the *Naturalist's Library*, says—"The short-horned breed were originally from a Dutch stock." Culley says—"It is pretty evident that our forefathers have imported these [the short-horns] from the continent: first, because they are still in many places called the Dutch breed: second, because we find these cattle nowhere in this island except along the east coast, facing those parts of the continent where the same kind of cattle are still bred." ("*Observations on Live Stock*," written in 1785, p 18.) Youatt, in relation to the original stock of British cattle, observes that "the battle has been stoutly fought between the advocates of the middle-horns and the long-horns," but that the short-horns can have no claim to be considered aboriginal, being "evidently of foreign extraction." (*Treatise on Cattle*, p. 9.) Martin says—"with respect to the short-horned breed, or the Durham and Holderness stock, often called the Dutch or Holstein, we have already expressed our opinion that it is not of ancient British origin, but that it is from a race spread over the northwestern portion of the continent, and prevalent in Guilderland, Utrecht, Holland, &c. ("*The Ox*," p. 56.

These remarks refer to what are now called the "*old*" short-horns, in contradistinction to the *improved* variety of that breed—a variety which within the last forty years has been extensively disseminated, and is now well known in this country. The origin of this improved variety, has formerly been the subject of much controversy in England, though for several years it has been but little agitated there. On this side of the water, however, some late attempts have been made to enlighten the public mind on this subject.

In the *Transactions of the N. Y. State Ag. Society* for 1849, Mr. AMBROSE STEVENS gives what he calls a "history" of certain short-horn cattle. This history is given as *his own*, no reference being made to any authority, except in a brief note, in which we are told where the histories of the Aislabie and other families, (not the history of the cattle,) may be found. Mr. Stevens begins thus:

"The ancient family of the Aislabies which came into England from Normandy with William the Conqueror, established themselves, prior to 1300, at Aislabie, on the river Tees, in the county of Durham, and the manor, their estate, was called after the family. As early as 1600 the family was known to possess a most extraordinary tribe of cattle."

He then labors to show that from the cattle possessed by this Aislabie family, are descended some of the short-horns now belonging to several individuals; though he does not distinctly assert that any animals now living are *wholly* of this ancient blood.

Admitting the main points of the above quotation, the first inquiry which arises is, where did the cattle alluded to come from, and of what breed were they? The Aislabie family, it is said, came from Normandy with William the Conqueror, (in the year 1066,) and "as *early* as 1600," *or five hundred and thirty-four years after they came into England*, they possessed an "extraordinary tribe of cattle." Did they take this stock of cattle with them from Normandy, or when and where did they obtain it? Were they long-horns, middle-horns, short-horns, or no-horns? On these points Mr. Stevens is silent. The most natural inference from the tenor of the language would be, that they were Norman cattle brought into England by the Aislabies.

But as we follow Mr. Stevens' "history," we find that "the Pennimans of Ormsby, in Yorkshire," are said to have become possessed of the *same stock*. Here, then, we have a key by which we may ascertain what this Aislabie stock was. In mentioning "the Pennimans," allusion is probably made to Sir James Penniman, who, according to various authorities, was many years ago in possession of a valuable stock of cattle. In the pedigrees of some of the first short-horns recorded in the *Herd Book*, the stock of Sir James Penniman is frequently spoken of, and it is stated that it was derived from Sir William St. Quintin, of Scampston. Rev. Henry Berry mentions the same facts, and states that St. Quintin was one of the early improvers of the short-horns. This Penniman stock, therefore, (which by Mr. Stevens' "history," was the same as the Aislabie stock,) was derived from St. Quintin, and to show what was St. Quintin's stock, we will refer to authorities.

The late Major Rudd, of Marton-Lodge, near Stockton-on-Tees, writing to the *Farmers' Journal*, under date of June 28th, 1821, says: "The sire of Hubback was descended from the stock of Sir James Penniman, who obtained the breed from Sir William St. Quintin. I was intimately acquainted with Sir James Penniman's steward, who has repeatedly assured me that Sir James told him this breed was a cross between the old short-horns and the Alderney [or Normandy.] Sometime ago, I happened to read the *New Farmers' Calendar*, fourth edition, published in 1802, in which at page 393, is the following passage:*

'Yorkshire is famous for the Holderness or short-horn cows. This large breed came originally from Holstein and the low countries, and was, until o.

* The same passage occurs in the fifth edition, page 193.—Ed.

late years, too coarse and Dutch built; they have been much improved in symmetry and fineness of bone and flesh, by a judicious cross with the Norman cattle. For this improvement I understand the country is indebted to the exertions of the late Sir William St. Quintin. They are now very excellent and beautiful stock, and many of them are made fat at three years old.'"

It is proper to remark, in passing, that Major Rudd was for many years one of the most distinguished breeders of improved short-horns in England, having purchased at Charles Colling's sale, in 1810, the very best, and with the exception of Comet, the highest priced animals of that celebrated herd, viz: Petrarch, at 365 guineas; Lily, at 410; Countess, at 400; and Peeress, at 170 guineas.

Lawrence, in his *Treatise on Cattle*, published in 1809, says, at page 57,—"The extreme coarseness and size of the Northern short-horns, led to the introduction of Norman or Alderney bulls, at some period of the eighteenth century, with the precise date of which we are unacquainted. Never was there a more fortunate cross."

But it appears that St. Quintin made other importations. Rev. Henry Berry, in his pamphlet entitled "*Improved Short Horns and their Pretensions*," written in 1824, says, at pages 16, 17—"Sir William St. Quintin imported cows and bulls from Holland; and it may be added that from him Sir James Penniman, who possessed estates in the counties of Durham and Northumberland, and was desirous to extend the breed further north, obtained the cattle necessary for his purpose. From these he presented six cows and a bull to Mr. George Snowden, of Hurworth, his tenant." It should be remembered that "Snowden's bull," so called, was the sire of Hubback.

The same importation is probably alluded to by Culley in his "*Observations on Live Stock*," published in 1785. He says—"About 70 or 80 years ago, one of the St. Quintin family introduced a bull and some cows from Holstein." The same writer notices other importations, as follows:—"I remember a gentleman of the county of Durham, a Mr. Michael Dobison, who went in the early part of his life into Holland, in order to buy bulls; and those he brought over, I have been told, did much service in improving the breed; and this Mr. Dobison and his neighbors, even in my day, were noted for having the best breeds of short-horn cattle, and sold their bulls and heifers for very great prices. But afterwards, some other people of less knowledge going over, brought home some bulls that in all probability introduced into that coast the disagreeable kind of cattle well known to the breeders upon the river Tees, and called lyery, or double-lyered, that is, black-fleshed, for one of these creatures, notwithstanding it will feed to a vast weight, and though you feed it ever so long, yet will not have one pound of fat about it, neither within nor without."

The animals of these various importations were undoubtedly crossed with the stock previously in the country, and (with the exception of the last named.) probably aided in producing the variety to which the term "improved short-horns," has been properly applied.

We did not commence this article with a view of giving a full account of the short-horns—improved or unimproved; but there is one important fact to which the testimony here quoted tends, that should be borne in mind, viz: that the improved short-horns are a *mixed breed, produced by crossing*. Much other evidence of a like nature might be adduced, and even Mr. Stevens' "history," so far as it means anything, tends to the same end.

Letters from Prof. Norton—No. 9.

On the Importance of Extended Chemical Investigations.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., August 5th, 1850.

MESSRS. EDITORS—It may seem to many that the time has long passed, when it was necessary to write for such a paper as the Cultivator, on such a topic as I have selected for the theme of my present letter. I think, however, that a little reflection will convince any impartial and observing mind that we have as yet only begun to impress the great mass of the farming community, with a due sense of the importance of this subject.

It is common to say, that there has been a change within a few years in this respect; that farmers are now rapidly becoming convinced that there is something to be learned from scientific investigation: this is all true to a very great extent, and I will even acknowledge that in many districts, direct encouragement to such investigations has been given. Our numerous and flourishing agricultural societies, and ably conducted agricultural journals, are all so many evidences of advance, and of an awakened spirit of inquiry.

The farmers that one encounters at the shows of these societies, and those who take these journals, are as a class, ready to admit that there remains much to be done before they can be said to fully understand even the practice of their profession; and also that they are prepared to believe in the possibility of deriving great advantage from the labors of scientific men.

If all these things are so, it may be said, why complain of the farmers? why say that they hold back in the cause of improvement? This objection would have much force, were it not for the fact that after all, the class of which I have spoken, constitutes but a comparatively small part among the great agricultural population. Even the admirable shows of the State of New-York, fail to collect more than a small proportion of her farmers, although the actual concourse is immense. How many thousands there are in that State who scarcely know that such a show is ever held, excepting perhaps when it chances to come into their immediate vicinity. Many other States have no State show of any description. In a county with a population of a hundred thousand, it would be considered a successful agricultural show, which should draw together a thousand or two of people; and a gathering of more than two or three hundred of these to hear an address, on some scientific or practical topic, would be thought quite creditable. There are of course exceptions to this state of things, but I now speak of the country in general.

These facts no one can controvert; it seems then, that after all, but a comparatively limited portion of the farmers are aroused, even to the necessity and advantage of these simple steps towards improvement. Again, in going through our villages, how many people do we find, who never read any of the agricultural newspapers or periodicals, and who are ready to declaim against them all as useless How limited is the sale of even the largest and most ably conducted of these periodicals, compared with what it ought to be, if all appreciated its value.

But I desire to go a step farther, and to leave out of the question all those who may be considered entirely uninterested and incredulous on the subject of improvement; and to ask, how far can we depend on those who attend fairs and shows with

much interest, who read papers and hear addresses, with some degree of attention. Surely here we may look for the fullest approval in every scientific movement, and in any educational movement; here at last, in place of ridicule and contempt, we shall find warm encouragement and assistance. How far these anticipations are realized, those who have had occasion to present such subjects, can testify. With the farmers constituting a majority in most of our legislatures, projects for educational establishments having their interest in view, are suffered to lie neglected, or even despised, year after year, while money is at the same time voted away by thousands through the votes of these same farmers, for comparatively trifling objects with which they have little or nothing to do. This evil is gradually lessening, but yet strong manifestations of it may be seen in almost every capital of state, during each legislative session. Can any one doubt, that the farmers when once convinced that money can be appropriated with benefit to the cause of agriculture, will hesitate to appropriate it so far as is necessary? Can any one doubt, but that if they were fully and really convinced, they would do it *now*, freely and not grudgingly? So far is this from true that even in three States where appropriations have been made, it has been amid doubts, fears and opposition.

The conclusion forced upon the mind by such reasoning, and such facts, as the foregoing, is, that the majority of the farmers in our States are not yet prepared to advance very rapidly, and are not sufficiently imbued with a spirit of improvement. Many of them are, as I have said, disposed to the vague belief that some improvement is needed, but they are inclined to rest in the expression of this belief. They are not ready to *take active measures* to bring this knowledge into practical forms, and within their reach, or to aid in its increase. They shrink from actual innovations, although *theoretically* they may be brought to acknowledge them possibly advisable. In short, what the mass of farmers call a *conviction*, as to the merits of scientific agriculture, is merely a somewhat favorable prepossession; if they were really convinced that there was much to be learned from it, they would not be so foolish as to neglect decisive and prompt measures for bringing a knowledge of it within their reach. In such a case men of science would not be, as it were, compelled to produce the results of their labors and to apply them to practice, in a sort of apologetic way, as if for meddling with what they did not understand; but they would be sought after and encouraged, and urged forward in every possible way.

It is strange that, after all which has been already done, such a spirit does not show itself more strongly; while, too, the advantages from the application of chemistry, or of the other sciences, to practice is so extremely capable of proof.

Suppose, for instance, a farmer entering upon a new soil, of which he knows nothing, either in respect to its composition, or its physical properties. He wishes to grow wheat upon it, that being perhaps the best crop he can raise, if it will do well. His only way of deciding this question is by actual experiment; for there are some soils that look perfectly well to the eye, and yet will not grow good wheat. If the crop fails, his labor is all lost, and a year of his life has gone also. To this it may be answered, that manure is all that is needed, and that any farmer knows it already, without thanks to the chemist. This is true to a certain extent, but in many cases experience has shown that common manure will not produce good wheat, even when heavily applied to the land. Here then occurs the necessity for chemical analysis; by its means we are enabled to ascertain what are the substances, what are the proportions of the substances, that are contained in this grain; so much being done, it then remains to examine the soil also, and to ascertain of what this too is composed. If there are several substances present in the wheat, which are not present, or only present in small quantity in the soil, the whole subject becomes clear at once, and the great principles are established, by means of which such immense advances have been made in modern times; the principles of special manuring, that is, of supplying special deficiencies by additions of particular substances, which common manures cannot furnish in sufficient quantities.

We may also suppose a case, where the farmer cannot obtain enough of common yard manure for the extent of ground which he wishes to crop with wheat. Knowing the composition of the grain, he can look about for something which will answer for its food; though here again he is helpless to a considerable extent without the labors of the chemist, to tell him whether manures or substances that he has never seen before, are really what he wants. Can any reasonable man deny that chemistry is valuable in each of these cases; cannot all, on the contrary, see that if the researches of the chemist had been much more extended, had been carried so far as to explain every change which takes place from germination to entire ripeness, and all of the differences in the varieties of this grain, that a fund of knowledge would have been collected of the very greatest importance to every practical man.

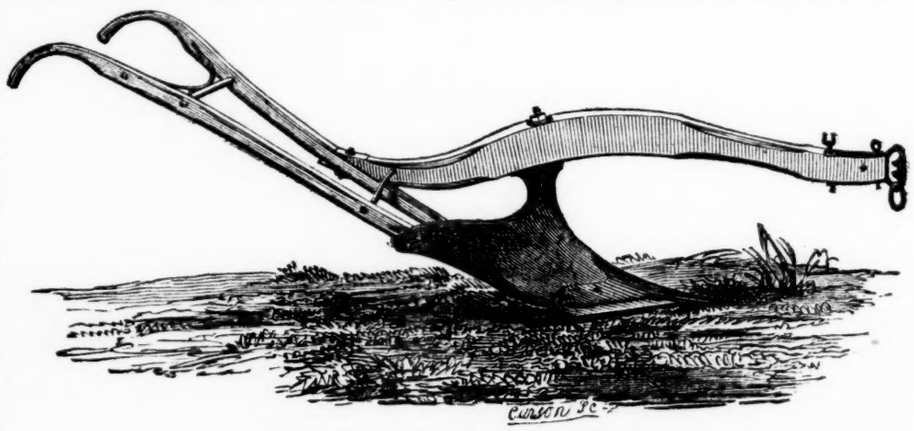
In my next letter I propose to write somewhat more at length relative to the necessity of such extended investigations as the one alluded to above, and as to the way in which they can be encouraged. Yours truly, JOHN P. NORTON.

Of Plows and Plowing.

EDITORS OF THE CULTIVATOR—In the Cultivator for March last, there are some ideas of mine upon "Plows and Plowing." I there mentioned that, with such plows as I had used, I had not been able to turn stubble land in a manner that seemed to me to be the most desirable, nor to plow so deep a furrow in green-sward land as I wished; that I had stated my difficulties to Messrs. RUGGLES, NOURSE, MASON & Co., and that they were getting up some new patterns of plows with the intention of obviating my difficulties. These gentlemen have now completed three sizes of a new plow for green-sward, and two sizes for stubble land, one of the largest of each sizes of which I have tested thoroughly, and I am now happy to be able to say that they meet my wants entirely.

The mould-board of the stubble plow is of a considerably shorter construction, and is wider at the heel in proportion to its length, than that of any good sod plow; and this gives it great turning power, enabling it to take up its loose furrow-slice, throw it *all* over to the desired place, completely inverting as well as pulverising it, and leaving a clean channel behind for the reception of the next furrow. The castings, both of the mould-board and land-side, are considerably higher than is usual in plows, which prevents stones and clods of earth from falling over and down between them, and thus aiding to fill up the furrow channel. The beam, immediately forward of the standard-bolt of the cast-

ings, is high and arching, giving a clear space of eighteen inches between the beam and the sole of the castings. When the plow is at work in the furrow, the extra space left between the surface of the ground and the plow-beam, in consequence of the increased height of the latter, effectually prevents the wadding up of stubble, coarse manure, or other impediments, immediately forward of the standard; and thus are avoided those vexations so frequently experienced when plows of the common construction are used. In June last, for the express purpose of testing this plow in regard to its ability to keep itself clear from clogging, I spread a dressing of the coarsest kind of long manure over an acre of corn-stubble land, and set the plow at work in furrows 8 inches deep. The acre was plowed, and the manure all covered, without once stopping the plow to clear it, and without any effort on my part to prevent its clogging. With this implement, the plowman may choose any furrow he pleases from five to twelve inches deep. The small size of the stubble plow is intended to meet the wants of those farmers who work their stubble lands with light teams. The largest size is easily drawn in sandy or gravelly loams by a pair of stout horses or oxen, if the furrow is not more than eight inches deep.



Ruggles, Nourse, Mason & Co's New Stubble Plow

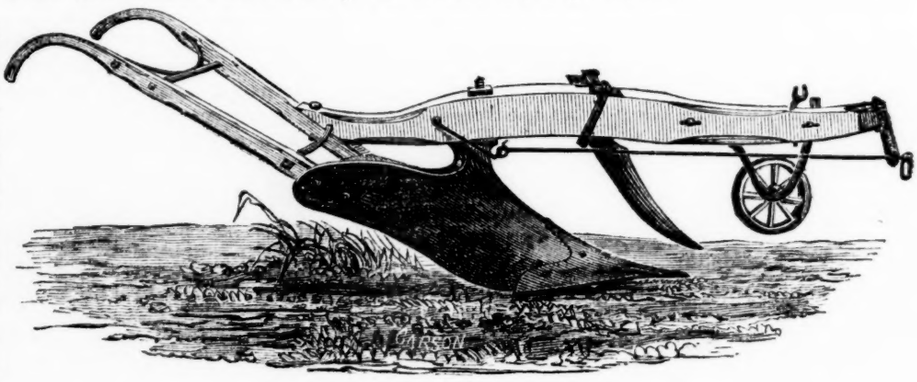
The green-sward plow is of quite different construction from that of the stubble plow. Its point is long, rising very gradually toward the standard, with a share gradually widening to its full breadth and cut.—The plow enters the ground in the form, so to speak, of a long tapering wedge, lifting the furrow-slice in a gentle and easy manner, laying it smoothly over into its proper place, with an easy draught by the team, and with little assistance from the plowman. It has also a space of eighteen inches between the beam and the sole of the castings, which prevents all clogging. The roller is attached to the side of the beam, instead of being placed under it, and consequently, it can be made ten to twelve inches in diameter, thus avoiding that constant groaning and laboring upon the axis which is liable to occur where small rollers are used. The dial-clevis and draft-rod, by which the team is attached to the plow, is an improvement, I think, upon the common clevis. Besides being a stronger and more durable attachment, it enables one to set his plow with entire accuracy in any desired furrow, from the shallowest and narrowest to the deepest and widest, that it is capable of taking.

The largest size of the green-sward plow is intended for the draught of four cattle. I have used it, and it works well in furrows all the way from six to twelve inches deep, but it delights especially in deep furrows. When set for plowing a foot deep, the most proper width for it to take is sixteen to seventeen inches; and the width of course lessens with the lessening of the depth. The next size is a three cattle plow, to be used in furrows not exceeding nine or ten inches in depth. The smallest size is a two cattle plow, designed for furrows not exceeding seven or eight inches in depth. The height of beam is the same in all the sizes, and the general form and principles of working are the same; the variations being in the amount of work done, and the force of team necessary to do it.

The accompanying cuts show the general form of these plows.

F HOLBROOK.

Brattleboro', Aug. 12, 1850



Ruggles, Nourse, M son & Co's New Sward Plow.

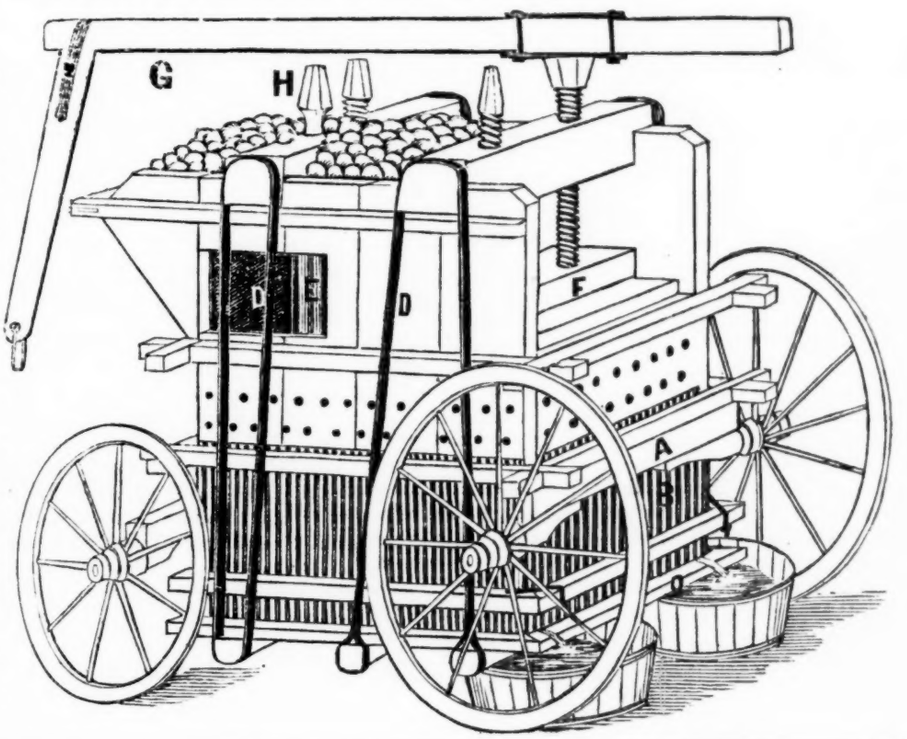
DRILLING WHEAT.—The Michigan Farmer states that the two portions of a wheat field were sown at the same time, one with a drill, and the other broadcast; the drilled portion presented a far more vigorous and luxuriant appearance, and although the wheat had not been cut, the difference was estimated at one-third increase. The broadcast portion consumed a bushel and a half per acre; the drilled, but half a bushel.

ETHERIZATION OF BEES.—Prof. DEPAYS, of the veterinary school at Brussels, has successfully applied the vapor of ether to bees, in order to deprive them of their honey without taking their lives. The vapor was blown into the hive through a glass tube, and the bees were soon made entirely torpid, in in which condition they remained for some time, but subsequently revived, and were as lively and healthy as ever.

CHAPIN'S PORTABLE CIDER-MILL AND PRESS.

This machine, invented by Mr. NATHAN CHAPIN, of Syracuse, is arranged in one compact body upon a sett of common wagon wheels, and is drawn from one orchard to another, by a pair of horses or oxen. It operates while standing upon its wheels, and it is said it will make from 12 to 20 barrels of cider per day, with the help of two men and one horse.

They are also made in small form, about the size of a Fanning Mill, and conveyed and operated by hand, in a barn or cellar, at pleasure. [See advertisement of Mr. Chapin, of Syracuse, the patentee, in another part of this paper.]



BROWN'S COUPLING FOR PIPES AND HOSE.

The annexed engraving represents two perspective views of an apparatus for "*coupling* hose and pipes," for conducting fluids, recently invented by A. HEYER BROWN of this city, for which he has received letters patent. The obvious advantage of this mode of connecting pipes or hose, consists in the celerity with which the operation may be performed by a single motion of the hands, instead of the method at present in use, which requires a number of turns to be given to the coupling boxes, corresponding with the number of *threads* or turns in the thread of the screw; and in all operations of the kind when the time required to form or sever a connection is of consequence, as in the case of fire engines, locomotive tenders, &c., it will readily be perceived that this mode possesses a decided advantage. The patentee has a number of specimens of the article of the size used by the Albany Fire Department, which he will be pleased to exhibit to such as may call on him for the purpose, at his room No. 17 Commercial Buildings, corner of Broadway and Hudson streets, Albany.

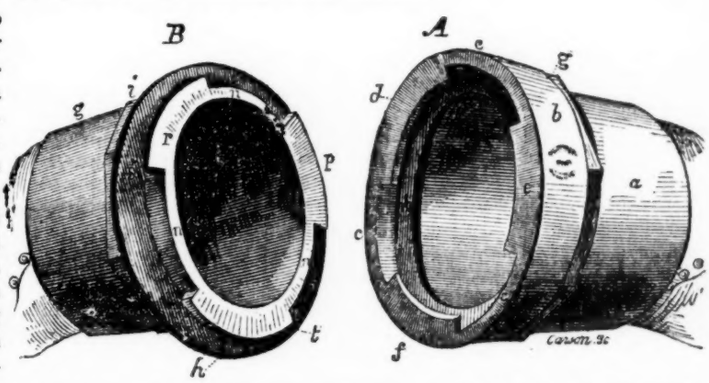


Fig. 1.—A view of the couplings when separated and the end of each part turned toward the spectator.

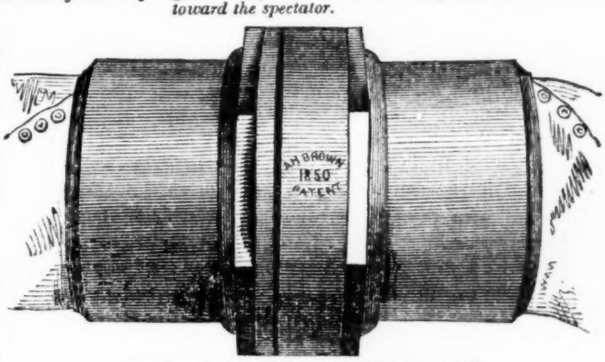


Fig. 2.—A view of the same when connected.

The coupling A, consists of a hollow metal ferule, *a*, attached to the hose by the method now in use. This ferule is enlarged at its other end to form a cylindrical shaped cup or hollow box, *b*; the edge of which *c*, is of sufficient thickness to form a firm bearing against the flat, corresponding part of the coupling, B.

The coupling B is a hollow metal ferule, *g*. attached to the hose, and is of equal bore to the ferule, *a*. At its extremity it is enlarged to form a flange, *h*, equal in diameter to the coupling A. The edge of the face of this flange at *s*, towards A, is turned at right angles to its axis, so as to bear truly against the edge *c*, when the couplings are united.

The *i* in figure B and *g* in figure A represent the position of a hexagonal rim, or surface, immediately behind the flanges *b* and *h*, designed for the application of wrenches, when necessary to connect the couplings firmly, or to disconnect the same.

A drone should be as rare in society as in a hive of bees, and almost deserves to be treated the same.

The Potato Disease.

EDS. CULTIVATOR—Disease has once more fallen upon the Potato crop. A few words upon its *signs and progress* may not be uninteresting though they cannot be new, as they will be mainly, though not entirely, a repetition of the experience of former years.

The potato crop in Central New-York, came up late this season in consequence of a cold and wet May. It grew rapidly during the month of June, but was not fully in flower until nearly the middle of July, in consequence of the general lateness of the season.

The first intimations of disease upon it were noticed after a pretty heavy rain, on the 23d and 24th of June, followed by cool weather on the 25th, on which day I noticed that the small and half formed rosettes of flowers were paralyzed and falling off unopened.

The next, and much more severe check which this crop received, was from the heavy rains of the 2d, 3d and 5th of July, followed by cool nights on the 5th and 6th, the thermometer sinking on the following mornings to 50°. There was not, however, in connection with these cool nights, the same coolness and chafing wind during the day, that I have noticed, in former years, in connection with the origination of the potato disease. Immediately after these rains, i. e. on the 6th, I observed a most marked pallid look in the potato crop, attended with the withering of the top of the leading shoots, more especially at first a single leaf, and the falling of all the flowers whether expanded or not. Here let it be asked what would be the consequence of any considerable check in the growth of this or any other plant? Would it not probably show itself at the tenderest points, i. e. upon the last formed leaves, and the flowers? Can there be then a more convincing proof that *potato disease, which always commences with this pallid aspect of the foliage, attended with the withered leaf and falling flowers, all in connection with sudden and severe changes of the weather, is legitimately the result of such unsteady weather?*

These heavy rains filled the plant with weak juices and saturated and chilled the soil so as to shut out the influence of both sun and air, and thus prevent all healthful elaboration in the plant. Meanwhile chemical tendencies would become more powerful than vital energies in the plant; and the result would naturally be morbid elaboration, and eventual disease, in the foliage in the first instance, and remotely in the tubers. Where this withered leaf is seen, the end of the shoot, in nearly every instance, either dies or hopelessly dwarfs; and its place is taken, if the plant should recover its energies, by the development of the bud in the axil of the next leaf below. After the effect of these rains and chills of the first week of July passed off, the verdure of the potato crop gradually recovered. Much of the succeeding portions of the month, however, was wet and hot; the atmosphere was like a hot vapor bath, a state of weather undoubtedly unfavorable to the health of an enfeebled plant, such as I consider the potato now to be.

July 16th, two days after a heavy and warm rain, I noticed the first *blue edgings* on the leaves of the potato seen this season. This is a fearful indication, as it almost always spreads rapidly, and is always speedily followed by death to all the leaves so marked.

After this there was a slight recovery of the healthful verdure of the crop, which continued until the 25th, when a slight shower, followed by a chill on the 26th and 27th, reducing the morning temperature down to 52° and 49°, and once more brought pallid looks and increased the withered leaves and falling flowers.

August opened with a continuance of all the preceding morbid indications, especially with a very rapid increase of blue tips upon the upper and outer leaves of the plant, and iron-rust spots upon the lower and inner leaves.

Whole fields of early planted potatoes now look as though lately invaded by a scorching flame. During the present week, I and my neighbors have frequently found tubers marked with tender, reddish spots on the cuticle, beneath which the flesh begins to be a little soft.

What the result will be, no one can tell. It may be hoped that some very late crops will find cooler and more even weather, and so mature a fair crop of healthful tubers, just as was the case last year; although, as a general rule, it is undoubtedly true that early planted potatoes do best.

It is yet too early to know how fatally the tubers of early planted crops of potatoes will be diseased, but I anticipate painful results.

It is a melancholy work to watch the progress of disease on this valuable plant from year to year, and to feel how imbecile are the most of our efforts to avert it or arrest its progress.

In harmony with the suggestions of my published essays on this topic, I am laboring to renovate the potato—*first*, by successive reproduction from seed balls, gathered from our strongest existing varieties, and *secondly*, by importations from South America, whence I have tubers brought both from *Bogota*, in *New Grenada*, and also from *Chili*. These last I appreciate not as a race of tubers to be made the basis of cultivation, but as a supposed pure and hardy source of new seed balls.

Should it be asked how the morbid indications of the present harmonises with those of former years, I answer most exactly. There is one difference in circumstances however. They are more obviously connected with hot and wet weather, and less with that which is cold and windy, than in former years. The relation of disease to different soils, aspects, modes of culture, varieties, &c., I have hardly had time to examine, nor is it quite time to fully know.

An argument, derived from the culture of other tropical plants, has been adduced to show that the potato, in common with most other tropicals, suffers from sudden alternations of weather. It is yet too early fully to illustrate this argument from the culture of the present year. It may be observed, however, that tropical plants have grown less vigorously than in some former years, but that, as there has been an absence of severe and sudden chills, so the *foliage* of these plants has not been diseased as much as in former years. The fruit of these plants also has suffered less than in former years. I now refer especially to cucumbers, melons of all sorts, summer squashes and beans. Tomatoes show a strong tendency to the wet rot. The dry black induration upon this fruit, noticed in former years, in connection with the potato disease, has not yet been seen this year. The time has not yet come for some tropical plants to show all the morbid indications to which they are liable, as their fruits are not yet matured.

It has been advised to mow off potato vines, when first struck with disease, in the hope thus of preventing its communication to the tubers. The only case where this would be applicable is that in which the tubers are large enough to be worth saving. In such a case, and where the approach of disease was

sudden, as in 1846, I certainly would do it. There is, however, usually this practical difficulty about it: the disease is often permitted to make too much progress before it is attempted, and then it can do no good. There is also always a hope that it will be light, and that the vegetation of the potato will, after suffering awhile, recover and mature its tubers in a tolerably healthful condition.

In conclusion, so uniform are the morbid indications of the potato, taking sorts, soils, modes of culture, and time of planting, into consideration, and connecting all with changing states of weather, that I have almost ceased to feel any curious interest in them. A melancholy interest all, however, must feel. I have no hope of a permanently better state of things while our old varieties continue to be cultivated.

The alternative to which we are fast being driven is, I think, regeneration or ruin. C. E. G. *Utica, Aug.* 10, 1850.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Irrigation of Gardens.

From repeated experiments, we are induced to draw the conclusion, that next to manure, the great prime mover in successful culture, there is nothing more important to vegetable growth in many cases, than irrigation. Practical gardeners in countries far more moist than our own, regard it as indispensable, and a large share of their success depends on copious waterings.

Some interesting instances which have recently occurred may be worth stating. Two rows of raspberries stand on ground in every respect alike, except that one receives the drippings from a woodhouse, and the other does not. The watered row is fully four times as large in growth as the other. Again,—the berries on the bushes of the Fastolff and Franconia raspberries were at least twice as large when the soil was kept well moistened, as afterwards when allowed to become dry; a repetition of the watering again doubled their size. Again,—a near neighbor who cultivates strawberries for market, and who uses a water-cart for irrigating the rows, raised at the rate of one hundred and twenty bushels to the acre on common good soil by this means—and he noticed that where the cart was left standing over night so that the water gradually dripped from it for some hours upon a portion of the plants, the fruit had grown to double the size of the rest, in twenty-four hours.

It should be observed that these advantages of a copious supply of water pertain chiefly to small or annual plants. The roots of fruit trees being larger and deeper, are to be supplied with moisture in a different way; that is, by a deep, rich, mellow soil, kept moist by cultivation, or by covering thickly with litter. Water applied to the surface, rarely descends so low as the roots, and only hardens the soil to a crust.

Striped Bugs.

John W. Bailey, an enterprising fruit raiser of Plattsburgh, N. Y., gives the following method in the Horticulturist, which he has found the only one *effectual under all circumstances:* "Take 4 pieces of boards about 2 feet long and 7 to 10 in width, [we presume he means 7 to 10 *inches* and not *feet*, *Eds. Cul.*,] nail the ends together, and put around the hill vines, and no striped bug will ever be found inside (if not there when the box is put on.) Three or four short boards put around the hill and kept there with wooden pins will answer the purpose equally well. This season the bugs had destroyed more than half my vines before I put my boxes on. I then planted the vacant hills inside the boxes; not a bug came on the vines after that, until I supposed the young vines last planted, were strong enough to defy the bug, when I removed the boxes, and they were immediately attacked again, and I was obliged to replace the boxes. I have tried this for several years."

American Pomological Congress.

An invitation is given by the officers of this institution, which holds its next meeting at Cincinnati, on the 11th, 12th and 13th days of this month to all agricultural, horticultural, pomological, and kindred societies in the United States and Canadas, to send such number of delegates as they may deem expedient. Specimens of fruits are also solicited, "with lists of the same, and also papers descriptive of their art of cultivation, of diseases and insects injurious to vegetation, of remedies for the same, and whatever will add to the interest and utility of the convention."

Packages of fruit not accompanied by the exhibitor, to be sent to JOHN F. DAIR & Co. Lower Market street, Cincinnatti, O., very distinctly marked, "*For the Am. Pomological Congress.*"

Delegates are to forward their certificates to J. B. RUSSEL, corresponding secretary of the Cincinnati Horticultural Society, and to report themselves on the 11th at the *Burnet House.*

The Michigan or Prairie* Rose.

(*Rosa rubifolium.*)

None can be better adapted for pillars than the Prairie Rose. It is more hardy than the Ayrshire in some localities, and more vigorous in its growth than the Boursault. Its colors are fine, though there is room for improvement,—for if we could give to its flowers the brightness of Coccinea superba, the dark richness of Miralba, or the pure white of Madame Hardy,—their beauty and splendor would be much increased.

It is now scarcely ten years since much was known of its double varieties. It is true that in the spring of 1836, Professor Russel published a notice of a semi-double prairie rose found on an island of the Ohio river; but he had not seen the flower. R. Buist, in his Rose Manual says: "It was in 1837 that we first saw a double variety of this rose, although such had been cultivated in Ohio and Kentucky for many years." He has not mentioned, however, the name of the variety.

In the spring of 1840, James Wilson, in the Albany Cultivator, described a double variety "with flowers similar to the cabbage rose." This I presume was the Queen of the Prairies.

In the Rose Manual (1844) six kinds were named, which had been originated by Samuel Feast of Bal-

* This rose is not found in the open prairies, but in the oak openings or barrens where the timber is sparse, and of stunted growth. It is not a trailer like the Ayrshire rose, but shoots directly upward, and sometimes occupies the tops of other shrubs. In 1816 I saw one a few miles east of Vincennes, Ind., and made the following memorandum at the time: "Observing a plum tree with large red flowers twelve feet high, I turned from the road to take a fairer view, and with surprise beheld a rose bush resting its vine-like stem on the branches to that height. The blossoms are in clusters, and as the color varies with age, the appearance is beautiful. I have seen this rose almost every day since we crossed the Scioto, and believe it might be trained to the height of twenty feet." Travels in the West, page 142.

timore; but the author adds, "I have now a few hundred plants obtained [by hybridizing] which exhibit in their growth great diversity of character, but have not yet bloomed."

Within the last year, C. M. Hovey of Boston, told me they had 18 double kinds of this rose; and W. R. Prince, before his departure for California, had spoken to me of 27 double sorts in his nursery. Doubtless we shall soon have many others.

As the native land of this rose is also the land of the mounds, it must have grown in ancient times amongst a dense and civilized population. Had they not a taste for flowers? and did it not enter their gardens? Did it spread into double varieties (generally the result of high culture)? It was then as capable of doing so, as it is at this day. Was the period in which that people passed away, so remote from the present, that all *their* varieties have had full time to perish, and their seedlings to return to their wild and single state? D. T.

Greatfield, 7 mo. 25.

Belle Magnifique Cherry.

We are delighted with this fine large variety. A seedling had sprung up in the garden, into which I inserted a bud, and the tree is now six feet high, hung with cherries from the highest point where the branches are old enough, down to within one foot of the ground. It is truly an ornamental plant.

While our light-colored cherries were decaying in abundance on the trees, the Belle Magnifique was too small and green to be affected by the wet weather; and now (7 mo. 20,) when nearly all our other (60) kinds are gone, this comes in as a prelude to the feast of apricots. Though belonging to the class of Duke cherries, it loses most of its acidity in ripening, and ranges very high on our list of favorites. D. T.

The Cherry Bird.

"For the past three years, I have lost nearly all my cherry crop by the cherry or cedar bird—the present year I should have had at least fifteen bushels of the finest sorts, but have scarcely obtained six quarts, on account of their ravages." B.

Ontario Co., N. Y.

Our correspondent is not alone in his disappointment from the depredations of the cedar bird. A near neighbor lost forty bushels by estimate in the same way. Two years since, the writer lost a large and valuable crop of very early pears, in three hours time, by the cedar birds which descended in clouds upon them.

All the rest of the feathered race do not occasion a fiftieth part of the damage to this crop, caused by the cedar bird alone. We know of but one remedy that has proved effectual, out of some eight or ten that have been proposed. Cultivators will take their choice whether to adopt it or lose their cherries. This is to shoot a few of them. It is remarkable how soon the remainder become alarmed, and disappear entirely. An old fruit cultivator says that he is never troubled with them after the first week, where this remedy is applied. The present year they commenced in such numbers and with so much boldness, that the man who was gathering the crop, found it impossible to drive them away, even when he had ascended the tree with a ladder. A few hours time spent for two or three successive days, served completely to disperse them, and for weeks afterwards not one was to be seen. In applying this remedy, humanity will dictate that the charge and the aim be so sure as not to wound without killing. This is the only species of the feathered race against which we should have any controversy—the crow, the owl, the hawk, and the blackbird, as well as all other birds, we regard as friends, the mischief they commit being so small, or the benefit they occasion so great, that we should feel bound to protect them.

Native Flowers.

Lilium canadense, (common meadow lily,) is remarkable for two very distinct varieties, besides some of inferior note. The first kind I have only observed on, or below, the Allegany range of mountains; and this is the variety from which some botanists have drawn their character of the species. The flowers are bronze-yellow, segments more attenuate, and but slightly revolute. Dr. Torrey calls it the "Wild *yellow* Lily."

The second kind is indigenous in Western New-York, and might properly be termed the *Red* Meadow Lily. This is probably *v. rubrum* of the Encyclopedia of Plants, and perhaps *v. coccineum* of Pursh. The flowers more resemble those of *Lilium superbum*, in color, in the purplish dots on the inside, in the segments which are very revolute, and in number. I once saw twenty-eight growing in a pyramid on one stalk, though a third or a fourth of this number, without culture, is rather unusual. Yet in its leaves and their verticillate arrangement, it fully agrees with the former variety.

The characters of those two *species*, solely considered in reference to each other, may be given as follows:

Lilium canadense: Leaves, lanceolate; nerves and edges of the leaves, hirsute.

Lilium superbum: Leaves, linear lanceolate, scattered above; nerves and edges of the leaves smooth.

Some years ago I introduced the Bronze Meadow Lily into my garden; but the soil seemed ungenial, as it grew less thriftily than the Red variety; and after a fair trial, I set it in the same border of selected earth which agrees so well with the Laurel (Kalmia latifolia.) Now, instead of two or three flowers on a stem, it has eight, beautifully arranged on a strong stalk, not less than five feet high D. T.

Greatfield, 7 mo. 15, 1850.

To winter Bourbon Roses.

The Editor of the Prairie Farmer announces that he has succeeded after several years of trial, in wintering with perfect security the Bourbon and other equally tender roses,* so that not an inch of twig or even of leaf was blackened or injured. It will be recollected that they have very sharp weather at Chicago, where these experiments were tried.

The process is this:—"First, to keep their feet dry; this is essential, for in wet soil, they are sure to be spoiled. The next thing is a proper covering for the tops. The best thing we have ever yet tried is *tan bark*. Indeed, this leaves nothing to desire. It is one of the best non-conductors extant, and unless soaked in water, will keep sufficiently dry for all needed purposes.

"Let the twigs be bent down in the fall before the ground is much frozen, and fastened, and then covered to the depth of six inches; place on the whole a piece of board laid so as to turn off the water, and the plant is safe till spring. Care should then be exercised in removing the covering, a part being

* The Bourbon roses include the Souvenir Malmaison, Princess Clementine, Gloire de Rosamene, &c.

taken at a time, and a part being left till the weather is tolerably well settled."

"Tea and China roses may also be kept in tan; though a portion of them will fail."

Cutting off the Leaves.

Last summer I mentioned the case of a rose shoot which had withered in the hot sunshine, and which was preserved by removing all the leaves. A few weeks ago, a case somewhat similar also occurred. The gardener's spade had disturbed a layer of the *painted damask*, and it was much withered before I observed it; but immediately I cut away all the leaves, and part of the stems, at the same time screening it from the sun. It is now recovering its foliage. The questions may arise, however, would it not have recovered without this excision, and would not the leaves, as soon as they were dead, have ceased to *pump out the moisture*, and thus by a provision of nature, recover without any care of ours? I think not. The leaves would act as long as any moisture was left; and when none was left, the branch or shoot would perish with them. D. T. *Greatfield*, 6 *mo.*, 20.

Virgilia lutea—*Yellow Flowering Virgilia.*

So it is called in the Encyclopœdia of Plants, and the flowers are marked as yellow, agreeing with Nuttall in this particular. The only tree of this sort that I have ever seen stands in my garden, with *white flowers*. It has stood there about twenty years—8 inches in diameter, and 18 or 20 feet high, with a fine spreading top. It has never been in *full bloom* till the present time. The racemes are compound or shouldered like a bunch of grapes, about a foot in length, pendulous; and having a darker foliage than the locust, it is greatly admired. There is a constant buzz from the bees that frequent it.

Although it comes from the south,—Nuttall says hitherto only found in the mountains of Tennessee,—it is perfectly hardy at this place. D. T. 6 *mo.* 21.

Corrections of last Number.

In the last number of the Cultivator, on page 268, the printer has erroneously converted *Rambour* into *Rambo*, these being names of quite distinct varieties. On page 270, *Bowyer's* Early Heart is changed to *Boyer's*, the former being the correct name. The figure of the wire-loop label, on page 269, should have been drawn so that the notches designating the numbers should be near the twist in the wire, and reading from it, to prevent mistake by reading the wrong way. In the figure immediately above, the notch designating O, should be deeper or more distinct, so as to be about four times as large as the others.

Rose Cuttings.—One of the best methods of securing the success of these, is to stick the cutting about an inch deep into *clean* river sand—with properly prepared soil about an inch below to receive the roots as soon as they strike. The clean sand prevents the wood from rotting. A correspondent of the Horticulturist succeeded with this when every other mode failed, and says he does not lose one in twenty.

The little and short sayings of wise and excellent men are of great value, like the dust of gold, or the least sparks of diamonds.

Domestic Economy, Recipes, &c.

To Cook the Egg-Plant.

This is a delicious and highly nutritious vegetable, which would be more extensively used, if the proper mode of cooking it was understood. The following mode has given satisfaction so far as we have known it tried. Cut the purple egg-plant into slices a third of an inch thick. Put the slices on a plate, one over the other, with a sprinkling of fine salt between each layer, and lay a weight of three or four pounds on the top; leave them in this situation for four or five hours or over night. The salt will form a liquid with the juice of the egg-plant, which will take out the bitter quality. The liquid should be drained off. Fry them brown in lard or butter.

The following mode of *stewing* the egg-plant is given by Miss Beecher: Take the purple kind, stew till soft, take off the skin, mash it with butter and sweet herbs, grate bread over the top, and bake it till brown.

Preserving Tomatoes for Table use.

Tomatoes may be so prepared as to be kept a long time, and when cooked are almost as good as the fresh fruit. The following is a receipt sent us a few years since by a subscriber in South Carolina.

Prepare the tomatoes as for cooking, (without seasoning,) boil them one hour; then put them in small stone jars; cork and boil the jars for two hours, then take them out and seal them *air-tight*. When opened, season, &c., and cook for half an hour.

Tomato Figs.

The small pear-shaped tomatoes, may be preserved as follows. They are very fine and their resemblance to figs is not wholly in name and appearance. A chemist at our elbow, who has analysed both figs and tomatoes, tells us that the composition of the fruits is quite similar.

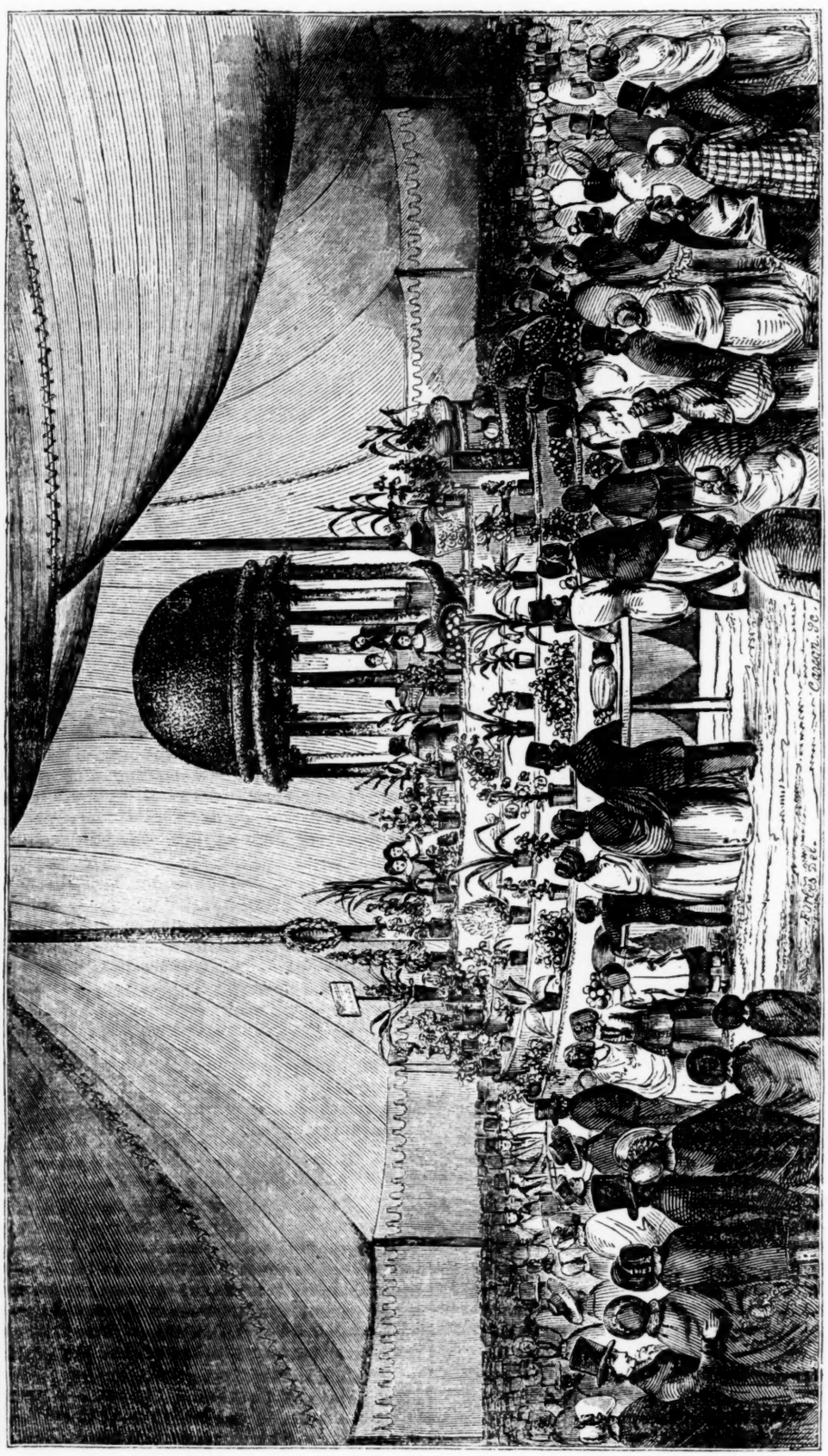
Scald and peal the tomatoes, and then boil them in one-third their weight of sugar, till they are penetrated by it. Then flatten and dry them in the sun, occasionally turning them and sprinkling with sugar. When dry pack them in layers, with sugar sprinkled between.

Tomato Ketchup.

Pour boiling water on tomatoes, let them stand until you can rub off the skin; then cover them with salt, let them stand twenty-four hours. Then strain them, and to two quarts put three ounces of cloves, two ounces of pepper and two nutmegs. Boil half an hour, then add a pint of wine. *Miss Beecher.*

To make Cucumber Pickles.

Soak the cucumbers three or four days in old, sour cider, or two parts water and one of vinegar; then place them in the pickle-jar; heat good cider vinegar scalding hot, with an ounce of alum to a gallon of vinegar, with any kind of spices, and in such quantities as suits the taste; pour it over the cucumbers while boiling hot; cover them tight, set them in a cool place and if the vinegar is right they will keep till June, when the old vinegar should be discarded and new substituted. Pickles made in this way are always crisp; the alum hardens the skin of the cucumber, so that it never turns soft. Those made in this waya year ago are in excellent condition now.



INTERIOR VIEW OF "FLORAL HALL."—State Fair at Syracuse, 1849.

A BRACKETTED FARM-HOUSE, OF WOOD.

Rural Architecture.

Downing's Country Houses.

THE ARCHITECTURE OF COUNTRY HOUSES: including Designs for Cottages, Farm Houses, and Villas; with remarks on Interiors, Furniture, and the best modes of warming and ventilating; with 320 illustrations. By A. J. DOWNING. 8vo. pp. 484. Appleton & Co.

THE distinction between a civilized and a brutal people, is not only indicated, but, in a great measure, caused by the influence of their homes. The domestic habits of all nations may be cited as proof. The rude log hut or the brush-covered hovel on the one hand, and the embellished cottage and farm-house on the other, afford a living index, pointing to the character of the people within. We must not however suppose that the ultimatum has been reached by the present architecture of civilized nations. It most evidently has not. For example, the best portions of our own country afford, we are compelled to say, too many violations of the rules of taste, of adaptedness, and of economy, in the houses of the inhabitants. Take a single defect, out of fifty, in a farm-house. The housewife is compelled to walk three needless yards, fifty times a day, in passing from the kitchen to the living-room. To save these three yards, by improved arrangement, would save thirty miles of walking in the year.

The book before us is *exactly* the one now wanted by the country at large. We think it decidedly the most widely useful work yet from the pen of its popular author. Every man who lives in a house should examine its contents. No person, possessing the least shade of taste, or love for convenience and economy, can fail at any time to pass an agreeable half hour in turning over its pages. But interesting as it is to the superficial reader, it will also bear thorough study. It is full of the most valuable suggestions, no matter into what part the reader may open, which will many times repay all the time spent in its examination.

This work consists of four main portions. The first (after the introductory remarks,) is occupied with *twelve* designs for *cottages*, with their various minutiæ, with prices from $300 to $2,500. The second contains *seven* designs for *farm houses*, costing from $1000 to $5000. The third furnishes *fourteen* designs for *villas* or *country residences*, from $2500 to $15000. The fourth comprises a great deal of valuable matter relative to the treatment of interiors, and with the description of furniture, all largely illustrated with engravings. There are, besides, many practical directions relative to economy in erection, materials, construction of chimneys, ventilation, paints and cements, eave gutters, &c., besides a chapter on the tasteful and convenient arrangement of stables.

Some may think a few of the designs approach the awkward or grotesque, simply because they have not been accustomed to see houses so constructed. One object of the author, it must not be forgotton, was to give a great variety in style, adapted to the varying localities of the country, and it is very easy to adopt the more simple and regular forms, by those who prefer them.

Others may object to the distinct line drawn between cottages, farm-houses and villas. But this distinction need not exist in fact; a cottage design may be adopted for a small farm-house, and a villa for that of a decidedly wealthy farmer. The man of moderate means may have a strong predilection for literary or scientific studies, and hence a small room as a library and cabinet may be more appropriate than for the larger house of his richer, but less cultivated neighbor. There is no difficulty in varying the designs given to suit circumstances.

We have noticed perhaps one or two defects. No provision is made in any of the villas, (with one exception,) by a nursery or large bed-room on the common floor, for the children, a most important portion of every complete family. There are also too many basement kitchens; a thing which should not occur, it strikes us, where land is less than one thousand dollars per acre—because it is easier to walk twenty yards on a level, than to ascend three yards in height. But these defects are not difficult of remedy, and are but as a speck on the column, when compared with the great value of the work. Indeed, when viewing the innumerable errors in building, all over the country, we cannot but wish that a hundred thousand copies might be speedily circulated. We give it as our opinion, that independently of the increase in good taste, every person of ordinary sense who may be about to build, may save, as a general average, from fifty to a

hundred dollars on every thousand expended, by studying this book.

We had marked a number of passages for copying into our columns, but want of space will exclude all but a few. The following rules to be observed in designing *farm-houses*, contain much in little. The first four refer to the production of beauty :—

"That the form of the building should express a local fitness, and an intimate relation with the soil it stands upon—by showing breadth, and extension upon the ground, rather than height.

That its proportions should aim at ampleness, solidity, comfort, and a simple domestic feeling, rather than elegance, grace, and polished symmetry.

That its details should be simple and bold, and its ornaments, so far as they are used, should rather be rustic, strong, or picturesque, than delicate or highly finished.

That in raising the character of the farm-house, the first step above the really useful, is to add the porch, the veranda, and the bay-window, since they are not only significant of real, but of refined utility.

So far as the *useful* is concerned in the farm-house, its principles are better understood, but we shall do no harm in recapitulating the most important :—

The farm-house should be built of strong and enduring materials, whether of timber or stone, so that it may need repairs very seldom.

The pitch of the roof should always be high, not only to keep the chamber-floor cooler, and to shed the snows in a northern climate, but to give sufficient garret room for storing and drying many of the smaller products of the farm.

The *living-room* of the family should be a large, and usually the largest and most comfortable apartment; it should be so placed as to be convenient to the other apartments used in the every-day occupations of the family, and its size should never be sacrificed to that of the parlor.

Every farm-house should contain a room for milk (even when the dairy is a separate building, as in most American farm-houses,) as well as a room or back building for wood or other fuel.

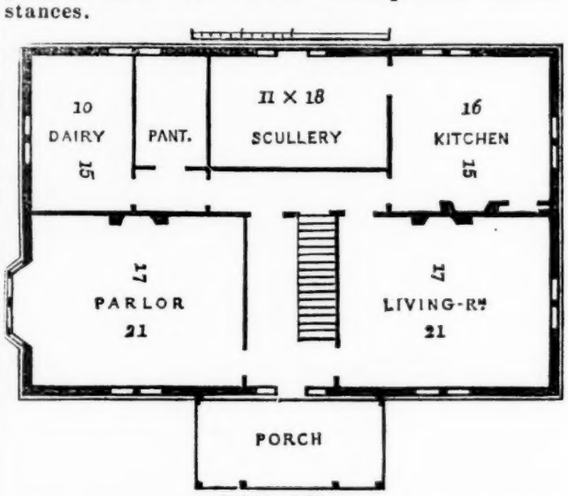
When the means of the farmer allow him to extend his accommodation, they should first be applied to multiplying and rendering as complete as possible, all apartments, on the first floor, calculated in any way to facilitate the domestic labors of the family or farm, before he increases the size or number of his parlors.

In addition to the rules laid down in SECTION II. for the production of fitness and tasteful effect in cottages, we may also add, that though a farm-house should always be built of solid materials when economy will permit, yet there is a mental satisfaction in finding at all times, that it is constructed of materials most abundant on the farm, or at least in the district where the house is placed.

Wherever good building materials abound, their use in building the house of the owner of the land, not only enables us to understand that the abundance and cheapness of those materials have made it easy to build a large house there, but it also affords us an index of the natural products of the earth, and has therefore a local meaning, much more valuable than any novelty that we may gain by bringing our bricks from Holland, like the original settlers of New-York, or importing portions of a French chateau, like some of our modern architectural virtuosi."

We copy a single design, that of a bracketed farm-house of wood :—

"The proportions of this farm-house are good, the form is a simple and pleasing one, and the impression it produces upon the judgment is that of a roomy, substantial, comfortable, and sensible house. It looks essentially like a country house, and while it has rather more dignity than most farm-houses, there is neither ambition nor ostentation visible in its exterior. On the contrary, the rather low and broad chimney stacks and the truncated gables show that there is a desire to avoid any especial affectation of elegance. It is in short a design which might be built in any part of the Union, and would be recognised as a country house of some importance—while it has no feature out of keeping with the position and life of a farmer in independent circumstances.

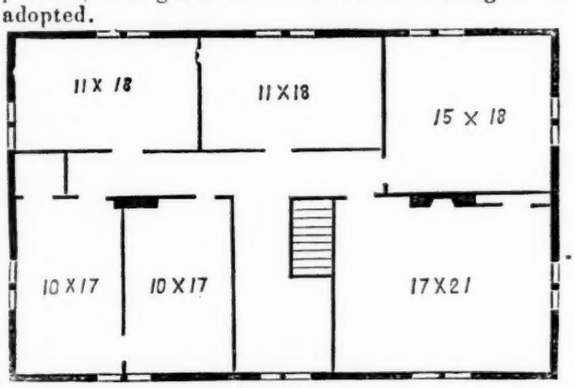


Principal Floor.

ACCOMMODATION. The exterior of this design is our own, but the arrangement of the first floor we borrow from one of Mr. Loudon's farm-houses. It is spacious and comfortable, without sacrificing too much to the parlor and living-room. The back door opens, it will be seen, into the *scullery*—which may be a wash-room or back kitchen. The passage which runs from the kitchen to the dairy should be lighted by a small sash of ground glass, placed in the partition of the scullery, exactly opposite the back door.

In many cases in this country, the dairy room being in a separate building, persons adopting this design would prefer to turn the room devoted to this use, on this floor, into a bed-room—making the pantry a milk-room, and diminishing the size of the scullery sufficient to take a pantry out of the space occupied by it.

Indeed, the ease with which this kind of parallelogram plan may be varied to suit different wants will occur to every one of the least ingenuity—and we therefore offer the exterior, as the most needful portion, as a guide to the mode of building to be adopted.



Second Floor.

The second story of this design, shows six bed-rooms.

The roof of this dwelling being large and hipped, gives a spacious and convenient garret, which is of great value in any country house, and especially to the farmer. Three good bed-rooms for workmen can be finished off in this attic, or four—if a gable like that in front is formed on the rear roof.

The porch, as will be seen by trying the scale, is 9 by 20 feet.

A cellar is intended to be built under the whole house—and there should be a back porch, which may be large enough to contain a *wood-house* (in which this plan is deficient,) or, at least, to communicate with one.

Construction. This house may be built, with good effect, either of stone, brick, rough-cast, or wood. We suppose it, in the elevation, for the sake of economy, to be built of wood, in the vertical boarding manner.

The first story is eleven feet in the clear, the second story nine feet. The house is to be finished with brown walls for whitewashing, the windows to have rising sashes, and both these and the doors to be finished with plain architraves with simple back mouldings; the doors in the first and second story to have four panels each; the hand-rail and balusters to be of oak or black walnut, and the whole to be executed in a very simple and plain, but substantial manner.

Estimate. To build this house here in the manner we have indicated, with planed and matched weather-boarding, and the whole filled-in with brick, would cost about $2000. At Rochester, where lumber may be taken at the average price, it is placed as low as $1477, but this estimate is without filling-in of any kind, and without outside blinds or shutters."

We close our extracts with a few scraps, pointing out some errors, often fallen into, though to a less glaring extent than here exhibited :—

"It may appear singular to one not accustomed to dwell on this subject, that it should be necessary to insist on the value of so obvious a truth as that a dwelling-house should look like a dwelling-house. But, strange to say, men who are blinded by fashion or false taste are as likely to commit this violation of Architectural truth as any other. We recall a villa on the banks of the Hudson, built in the form of a Doric temple, all the chimneys of which are studiously collected together in the centre of the roof, and are hidden from even a suspicion of their existence, by a sort of mask that resembles nothing unless it be a classic well-curb set on the top of the house. Now, as chimneys, in a northern climate, are particularly expressive of human habitation and domestic life, any concealment of them is a violation of general truth, and one might well be puzzled to know what sort of edifice was intended, in the villa in question. So, too, in the neighborhood of some of our cities, we still occasionally see houses which are pretty close imitations of Greek temples; and which, as they have sometimes as much space devoted to porticoes and colonnades as to rooms, one may well be pardoned for doubting exactly for what purpose they were designed.

Local truth in Architecture is one which can never be neglected without greatly injuring the effect of country-houses. And yet, such is the influence of fashion and false taste, and so little do the majority of citizens trouble themselves to think on this subject, that nothing is more common in some parts of the country, than to see the cockneyism of three story town-houses violating the beauty and simplicity of country life. In our own neighborhood, there is a brick house standing in the midst of gardens and orchard, which has a front and rear pierced with windows, but only blank wall at the sides; looking, in fact, precisely as if lifted out of a three story row in a well-packed city street, and suddenly dropped in the midst of a green field in the country, full of wonder and contempt, like a true cockney, at the strangeness and dullness of all around it. During a drive on Long Island, last autumn, we saw with pain and mortification, the suburban villa of a wealthy citizen, a narrow, unmistakable "six story brick," which seemed, in its forlornness and utter want of harmony with all about it, as if it had strayed out of town, in a fit of insanity, and had lost the power of getting back again."

A too frequent defect in cottages is strongly shown :—

"The cottage is not made to express, as much as possible, the simplicity of cottage life, joined with the greatest comfort, intelligence and taste of which that life is capable, but to imitate as closely as cheap and flimsy materials and a few hundred dollars will permit, the style and elaborate ornament of the villa, with its expenditure of thousands.

There are two striking illustrations of this false taste to be found in various parts of the country at the present moment—what may be called the *temple cottage* and the *cocked-hat cottage.*

The *temple cottage* is an imitation of the Temples of Theseus or Minerva, in thin pine boards, with a wonderfully fine and classical portico of wooden columns in front. The dimensions of the whole building may be 20 by 30 feet. The grand portico covers, perhaps, a third of the space and the means consumed by the whole dwelling. It is not of the least utility, because it is too high for shade, nor is it in the least satisfactory, for it is entirely destitute of truthfulness—it is only a caricature of a temple—not a beautiful cottage.

The *cocked-hat cottage* is, perhaps, a little better, for it is an imitative exaggeration, not a downright caricature. This species of cottage has grown out of an admiration for the real and intrinsic beauty of the rural-Gothic cottage, of which *gables* are strongly characteristic features. But some uneducated builders, imagining that the whole secret of designing a cottage in the Gothic style, lies in providing gables, have so overdone the matter, that, turn to which side of their houses we will, nothing but gables salute our eyes. A great many gables in the front of a Gothic villa of large size, may have a good effect; but to stick them in the front of a cottage of 25 feet front, and, not content with this, to repeat them everywhere else upon the roof where a gable can possibly be perched, is only to give the cottage the appearance, as the familiar saying goes, of having been "knocked into a cocked hat." A journey among the attic sleeping rooms of such a cottage is like that geographical exploration of the peaks of all the highest mountains, made by beginners, in the corner of a map of the world.

All ornaments which are not simple, and cannot be executed in a substantial and appropriate manner, should be at once rejected; all flimsy and meagre decorations which have a pasteboard effect, are as unworthy of, and unbecoming for the house of him who understands the true beauty of a cottage life, as glass breastpins or gilt-pewter spoons would be for his personal ornaments or family service of plate.

The most worthless of all family treasures are indolent females. If a wife knows nothing of domestic duties, she is not a help-mate, but an incumbrance.

The Farmer's Note-Book.

Notes on Farming in Ohio.

EDS. CULTIVATOR—I came into this place two days since, and have taken a little excursion among the farmers in the neighborhood. I had before expected to see a great wheat country and large crops, but both far exceeded my expectations.

I called on Judge Kelly at his farm. He has recently sold one-half his land, and now only farms 200 acres—50 in wheat. I called on Messrs. Everhart, (five brothers from New York State,) who farm about 400 acres—160 in wheat. On these two farms are used McCormick's Reapers. Messrs. Everhart had about seven acres yet to cut, and I went to witness the operation of the Reapers. The wheat being *dead ripe*, they had for some days only worked at it while the dew was on. They had their own, and the reaper belonging to Judge Kelly, both at work with four horses to each—although two horses is ample force—but the leaders keep the tongue of the machine straight on the line of draft, and thus tend to steady the machine. Two men ride on the machine, one to drive, the other to rake off the grain and leave it in heaps ready for the binders. Mr. E. informs me they have, during the present harvest, with one machine, cut from 16 to 18 acres in a day, and by its use have got their crop in good time, which could not have been done if they had depended on hand labor, of which it is impossible to get a *supply*, even at $1,50 or $2 a day.

I could not but admire the perfect manner in which the wheat is cut and laid,—it being all cut *very even*, and about six inches from the ground. There was but very little that was not cut, and this little had fallen down and laid either on or very near to the ground.

I also called on D. Jarvis, Esq., K. Jarvis, Esq., and others, who farm extensively, and all agree in opinion that the present crop of wheat is large—more than an average, and the wheat of *superior quality*. They think it will weigh 63 to 65 lbs. to the bushel. They generally estimate their crops at 20 to 25 bushels to the acre,—some more. I learn that Mr. Hildebrand, of this neighborhood, has 200 acres of wheat, and that he is quite confident it will average 30 bushels to the acre.*

I learn that Mr. Rutter, near Bolivar, 16 miles south of this, had, four years ago, 54½ bushels from one acre—land and grain carefully measured—and that he has this season measured off an acre from the same field, which he thinks will exceed the quantity he then had.

The wheat is generally thrashed and cleaned by the use of Pitts' thrasher and seperator, operated by 6 horses; and it gets out, ready for market, 300 bushels and upwards, in a day. This is done by men who make it a business, and go from farm to farm, having the assistance of two men at each place, and charge the owner three cts. per bushel. It is supposed it will be very profitable this season, as the amount of straw will be small in proportion to the wheat. The straw being 4 or 5 inches shorter than it usually is. At the warehouse and manufactory of C. M. Russell & Co., there have been for the last two or three weeks, eight to fifteen waggons in waiting, besides others coming and going, for these machines. They have already sent off 225 this season, and there are many more, made by Mr. Partridge of this place, and also at Fulton, nine miles north of this place. There are three manufactories in this town, which make and sell annually about 1400 plows, and other farm implements and castings to a large amount.

It is said that the clay loams yield this season rather the best crop of wheat, in consequence of the severe drouth of May and early part of June. In wet seasons, the sandy loams do the best. The oat crop looks well. It is now beginning to turn. On the 14th June, corn had not come up, or if up, a large proportion was not more than 4 inches high. The farmers say that it has since then grown more than corn was ever before known to grow in the same length of time, and is now as forward as it usually is at this time in the season. Much of it is now in the ear and silk, and looks well, everywhere, and bids fair to make a large crop. We have had continued hot weather and moderate rains since the 10th June. The hay crop will probably be a little below an average. The new meadows came on late and have done well. The old meadows in some places suffered with the drouth beyond recovery, though they have done better than it was thought they could do.

The frequent showers and very warm weather for the last few days have hurt the wheat some; but I think not to much extent. In this and the adjoining counties, there was more ground to wheat this season, than usual; they will therefore have a much larger amount than was ever before harvested in one season. It is a heavy job for them to cut and secure it—not more than one half has yet been got in.

August 1st. We had yesterday a bright good day and considerable wheat was taken in; but last night we again had a very heavy rain, and to-day the weather is unfavorable. The wheat out will be much injured if the weather does not come good very soon. They are here grinding new wheat. There has been many small parcels got out. I hear of none that weighs less than 63 and most of it 64 or 65 and one lot 67 lbs to the measured bushel.

I hear of many crops of 30 bushels and upwards to the acre; and I am told by gentlemen that are likely to possess correct information, that the amount of ground to wheat this year in several counties around here, (the greatest wheat counties in the state,) is nearly or quite one-fourth more than usual.

CULTURE OF FLAX.—The farmers near Cuyahoga Falls, in Summit county, are in the practice of growing flax to considerable extent. When the seed is ripe, they go into the grounds that have been well and smoothly laid down, and cradle the flax. When it is sufficiently dried, they run it through a threshing machine which takes off the seed. The stalks or stems are then carried to a piece of grass-ground and spread out as hay is spread to dry. It there lies till it gets sufficiently rotten. They then get out their horses, colts and light wagons, and the boys drive over it; and it being turned once or twice, the sheaves are broken up and shook out—all of which requires but a few hours work. It is then loaded and carried to the paper mill, and there sold at twelve dollars per ton, which with the seed makes it a profitable crop. J. R. HOWARD. *Massillon, July 24th*, 1850.

* Since writing the above, I have seen Mr. Hildebrand, who says he has 240 acres in wheat, and estimates the crop at 25 bushels to the acre. One farmer near here had a lot of 12 acres, which he has cleaned, and the yield was 33 bushels to the acre. I hear of others 35 to the acre.

Crops in Seneca County, N. Y.

EDS. CULTIVATOR—Our hay crop is one of the best I have seen, and our wheat crop, I think, will

be better than last year. There will be some loss by wheat midge, yet I think not more than last year, and on some farms much less. Oats and Barley are a heavy crop—indeed too heavy to be profitable, being beaten down by the heavy rains. Corn was kept back for a long time by cold rains; it now, however, looks well; but much of our stiff soil was plowed when it was too wet to make a good crop. I believe that stiff soils cannot be plowed too dry for corn or any other crop; but more so for corn than any other.

A great many cattle were fed last winter in this part of the State—more than ever before; but I am sorry to say a great many did not pay for their keep. Many farmers went into it that never fed before, and bought cattle that were not the right kind to feed, and could not have made them profitable almost any season; but cattle were bought too high last fall, and could not be expected to pay much. I was fortunate in buying two year olds, and by growth and by fat, I got about what might be considered reasonable pay for what they consumed, besides a great quantity of manure.

In 1840, I thought I had made a great discovery, in that I could winter my sheep better on straw, with from 40 to 50 cents worth of oil meal to each sheep, during the winter; but after following that practice for a number of years, I found that by making my sheep pass a large quantity of the straw through them, I greatly lessened the quantity of barn-yard manure. Still I considered it would be so much richer that it would amount to the same thing in the end; but I found after some years, that my diminished quantity of manure, made a diminished quantity of straw to make manure, and for the last three years I have gone back to the old practice—that is to let the whole of the straw be trodden under foot by the stock, and by that means I can raise double the quantity of hay per acre that I otherwise could do, and therefore can afford to feed hay; and should my land get too rich for wheat, I must go to feeding straw again.

I this year sold 77 fleeces of Merino wool, which, at the price sold for, (38 cts. per lb., cash,) brought one hundred and forty-eight dollars ninety-six cents. Who has a better flock? JOHN JOHNSTON. *Near Geneva, 18th July*, 1850.

The Power of Steam.

Steam!—mighty steam! The term suggests a thousand pleasing and profitable reflections. That marvellous and almost invisible power which brooks no opposition, which never tires—scouring the plains, piercing the hills, threading the valleys, and plowing the wide ocean, mastering with indignant ease time and space, wind, water and seasons. The varieties of its power may well amaze us—here 'tis wielding the ponderous hammer that gives shape to gigantic metallic masses—there it weaves the gossamer web, or twists the slender fibre. It plunges the hardy miner deep into the bowels of the earth, and raises from her lap her mineral and metallic treasures. These glow and flow with liquid meltings at its powerful blast; here 'tis printing bank notes, there coining golden sovereigns. To-day 'tis preparing food and clothing for the body; to-morrow it feasts the mind, spreading far and wide, in countless numbers, the broad sheets of intelligence. Instruments of death and of preservation, alike acknowledge its power. What a comprehensive word is STEAM! It means peace, progression, civilization, education, abundance and cheapness; it is the death-blow to monopoly and privation. Ignorance and prejudice shrink away at its approach; the iron barrier of separation is broken down by steam. The interposition of time, of distance, or of poverty, no longer wounds the tender affections. It increases alike our political power as a nation, and our morality; for the increase of physical comfort must, in a Christian community, predispose to moral good. *Mechi's Lecture on Steam.*

The Food of Plants.

Plants, even when grown in the same soil, do not draw up a sap exactly identical. Saussure has proved in the most positive manner that the roots have the power of selection, though his experiments on the unequal absorption of different salts are not quite satisfactory: for instance, sulphate of copper, though soon causing the death of the plant, is absorbed in as large quantities as any of those compounds which are beneficial to vegetation. Saussure explains this anomaly by showing that in the case of sulphate of copper, the roots were decomposed, and consequently except at the commencement of the experiment, only acted mechanically. It was well ascertained that the substances present in any solution were absorbed in very different proportions where their substances were not, like the sulphate of copper, positively injurious—for instance *Bidens* (bur-marygold?) and *Polygonum* (buckwheat?) absorbed the salts in the following proportions:—

	Bidens.	Polygonum.
Chloride potassium,.....	16 ..	14.7
Chloride sodium,.....	15 ..	13.0
Nitrate of lime,.....	8 ..	4.0
Sulphate of soda,.....	10 ..	14.4
Muriate of ammonia,.....	17 ..	12.0
Acetate of lime.....	8 ..	8.0
Sulphate of copper,.....	48 ..	47.0
Gum, ...	32 ..	9.0
Sugar,.....	8 ..	29.0
Humus (*extrait de terreau*)....	6 ..	5.0

These experiments were repeated with the greatest care, and it was proved—1st, That plants absorbed all mineral substances when dissolved in water: 2nd, That they were absorbed in very different proportions, according to the plant experimented on; this absorption was also quite irrespective of the fluidity of the solution; and 3rd, That organic matter, when dissolved in water, is not in that shape absorbed by the roots, but decomposed by their influence, and then partially ab sorbed.

1. Without entering into the minute details of the experiments, the absorption of the following substances was proved—prussiate of potash, chloride of sodium, sulphate of copper, acetate of lead, chloride of barium, ioduret of potassium, and many others. The absorption of nitrate of silver, corrosive sublimate, and gallic acid, did not take place until after the death of that portion of the plant plunged into their solution.

2. When the plants where placed in a solution containing two salts in equal proportions, it was satisfactorily ascertained that they were absorbed in different proportions. Even, when the salts were present in different proportions, this elective absorption was not deranged. In a solution containing three times as much common salt as nitre, a plant of *Chenopodium viride* (Goosefoot) absorbed much more nitre than common salt; whilst the contrary took place with *Solanum lycopersicum* (Nightshade.) Other plants selected also common

salt, and the *Tamarix* choose only sulphate of magnesia.

3. It was also ascertained that, when a plant was placed in a solution of fermenting manure, the disagreeable smell, which had been previously emitted, gradually disappeared.

If these experiments have not quite settled the question, they have at least strengthened the opinion that plants appropriate to themselves soluble substances in very different proportions. Chemical analysis of different plants grown on the same soil, also completely establishes this proposition. With regard to the oxygen, carbon, hydrogen, and nitrogen, chemical analysis has also proved that they are present in plants in proportions varying with the species, but agreeing very closely in the same plant. Analysis has also most clearly established the great diversity of the proportions in which different plants assimilate the alkalies and earths. For example, some plants will be found to contain common salt in large quantities, whilst wheat grown on the same soil will contain none. Other plants again, as the wall pellitory, the nettle, and borage, will be found to contain nitrates in large quantities, though they may be grown alongside of plants containing none at all. It seems therefore impossible to avoid the conclusion that plants possess the property of choosing, or at least of retaining, certain substances in preference to others, and, consequently, that different plants require different food.

But this opinion does not rest on the authority of chemical analysis alone; it is confirmed by the experience of agriculturists. For instance, it is known that certain manures seem especially to favor the growth of certain plants—as gypsum for clover—that certain plants only thrive on soils where they can obtain an abundant supply of a special ingredient, as the fern and the chestnut, on soils rich in potash, or such as are derived from slate rocks, and those of volcanic origin; that a mixed husbandry is the most productive; that a plantation containing a variety of trees produces more wood than if one species alone had been planted. These multiplied facts prove that it is not a certain quantity of a nutritive principle, but a choice amongst several that is necessary to vegetation. *Translated from the French for the Farmers' Mag.*

Water for Irrigation.

We have frequently heard it said that hard water was preferable to soft for the purpose of irrigation. But from a discussion of the subject at a late meeting of the Council of the Royal Agricultural Society, it appears that the question is not fully settled.

Mr. PUSEY said he doubted whether, in the present state of our knowledge, it could be admitted as a general axiom that hard water was good for irrigation, and soft water, on the contrary prejudicial. In Devonshire, the criterion by which practical workers in water meadows were guided in their judgment of the quality of the water most suitable for their operations, was that of a certain warm, soft, and oily sensation it communicated to the touch, when a portion of it was held and examined in the palm of the hand; the absence of such a quality indicating, in their opinion, a water unsuitable for irrigation. He knew, as a fact, that when lime existed in any water in such excess as to give it petrifying properties, such was considered by practical men as decidedly unfit for irrigating purposes. He accordingly much doubted whether hard water was the only water fit for irrigation. He thought water meadows would not be confined to limestone districts; for in those geological districts in the west of England, where irrigation had long been successfully practiced, lime was absent; the water being consequently soft. He considered that water in general became softened by remaining sometime in ponds. In the hilly districts of Devonshire, the water of the small streams running down the declivities, was found to improve its irrigating qualities.

Mr. ALMACK considered snow as the best exemplification of the beneficial action of water containing ammonia, and possessing chemical qualities from other impregnation. Mr. FISHER HOBBS said he could fully confirm the views of Mr. Pusey.

Prof. WAY said, in regard to the questions affecting the action of water in irrigation, he had only to repeat his diffidence on the subject, although he thought the criterion by which the Devonshire workers of water meadows were guided, might be fallacious. He had himself formed the opinion that the effects resulting from irrigation were due more to the chemical qualities of the water, than to the circumstance of its higher or lower temperature; but he was sensible how ignorant we were on these difficult questions, and he should be most open to conviction, and glad to learn all he could on these interesting subjects.

Cultivating Stiff Soil.

The importance of pulverization, for stiff soils, can hardly be overrated; yet it is a matter which receives too little attention from farmers in most sections of our country, where this description of soil prevails. Considerable improvement has been made in the implements used in cultivating stiff soils; as regards their pulverization, though the best implements for this purpose are by no means common. Much depends on the plow, as to the effect produced on the soil—some producing much more pulverization than others. The first effort towards producing this effect, should be to plow the land *fine*, or in narrow furrows. But in addition to this, some implement is needed which will, under any circumstances, reduce the hard soil to the requisite degree of friability. In England, an implement called the "clod crusher" is used for this purpose It consists of series of iron plates, placed round a cylinder, with notches like deep cut saw-teeth at the outer edges. The machine operates like a roller, and being drawn over the ground, breaks down and pulverizes the lumps at once. We can see no good reason why such an implement should not have been brought into use in this country.

A writer in the *Farmers' Magazine* makes some interesting observations in regard to the improvements which have been made in the cultivation of stiff soils. He says—

"We need only reflect a moment on the principles which have to guide the strong-land cultivator, in preparing his soil for the seed, and compare the means he had of overcoming his difficulties, say twenty years ago, with what he has now, and we shall see how very different is his position rendered by the application of mechanical science. We speak not of his profit, abstract or comparative; but we cannot help being struck with the vast difference in his resources of meeting the difficulties of his position. Once he had to plow with three or four horses, and to cross plow with great labor and difficulty, and then to harrow with an implement which produced scarcely any impression on the stubborn clods—to plow and harrow, and plow and harrow, whenever he could, until perhaps he

found it necessary to set his work-people, in some seasons, to complete his operations with the mallet and the stone-hammer, to break the unruly clods. He had to *pulverize* and to *clean*—the one could not be done without the other, and the former had to be effected somewhat in this manner: First the unctuous clay was cut in long longitudinal parallel pieces by the plow, and left on edge to dry, being divided by a double wedge called a plow. This mass being sufficiently dry to admit the treading of horses' feet with impunity, is cross-cut into large cubes, and these are subjected to the action of natural processes. The sun and air dry out all the moisture, owing to the large surface exposed to their action. The moisture abstracted, the clods begin to crack, and show here and there symptoms of fissures by the evaporation of the moisture, forming receptacles for the next rains, which one by one again swell out the particles, and slowly the whole is broken down into a friable soil."

He observes that the practice now is, to follow the plow as soon as the soil is suitably dried, " with the clod crusher, or some similar powerful separator of clods, and by once or twice going over the field, the soil is reduced to as fine a tilth as if it had undergone a whole summer's exposure.'

Pipes for Water.

Eds. Cultivator—I noticed in the July number of the Cultivator the inquiries of a correspondent, desiring information on the subject of laying water-lime pipe to conduct water for common watering purposes, and asking what were the advantages and disadvantages of this kind of pipe as compared with lead pipe. As it regards the utility of lead pipe, I could say nothing from personal experience, never having used any; but should suppose from observation that water-lime pipe was superior to lead for all ordinary purposes, where it is practicable to make it,—having the advantage of cheapness in construction and durability, if nothing else.

I have had some experience in making water-lime pipes, and can recommend them to any one who wishes to lay them, as being both cheap and durable. I will give my plan for making this kind of pipe, which I think is as good as any, or at least I know of no better. The tools necessary for this purpose are a common brick trowel, a mould, the size you want the bore of the pipe. This should be turned in a lathe perfectly smooth and round, and of equal diameter at each end. Its length should be about two feet and a half, with a handle turned on one end, smaller than the rest, to draw by. The materials necessary in making the pipe, are good water-lime and coarse sand—the coarser the better, if sifted from the coarser pebbles. Have your drain dug to the required depth with a smooth bottom, and about eighteen inches wide at the bottom so that there may be room to work with ease. In the middle of this drain dig a trench about four inches deep and from three to five inches wide, according to the size of the bore of the pipe, with a rounding bottom, if you choose, to save mortar. The advantage this trench has over the ordinary way of laying the pipe on the level with the bottom of the main drain will be seen at once. By using the trench you save considerable mortar, and the necessity of waiting for the mortar to dry before drawing the mould. If it were laid on the level, it would be necessary to wait for it to stiffen before you drew the mould, or it would flatten out. Mix your mortar, one part lime and three parts sand; make it as stiff as you can and have it spread well.

When you are ready to lay your pipe, commence by spreading a layer of mortar an inch or an inch and a half thick, in the bottom of the trench. This should be spread only the length of the mould at a time. Lay the mould on this spreading of mortar, and then spread the mortar on the top and sides of the mould; press it down tightly, so as to fit the mould, on all sides; smooth it off with the trowel on top, and lay down another spreading of mortar; then take hold of the handle of the mould and roll it around so as to start it loose, and draw it out to within three inches of the end,—spread on another layer of mortar, and smooth it as before. So keep doing, until you have your pipe the length required. Be careful that you don't press with your trowel on the pipe above the end of the mould, or it may cause it to cave in, especially if the bore of the pipe be large. Let the pipe remain three or four days, until it gets hard and dry; then cover it up with earth. Be careful and not let any large stones fall on the pipe,—they will be apt to crack it. A pipe properly made in this way, will remain perfect as long as it is kept from the frost. R. A. Hutchinson. *Geneva, July* 29, 1850.

Preserving Corn from Worms.

In the spring of 1847, we plowed up one acre in a corner of a six acre meadow, which had been several years in grass, and the whole of which was much infested with cut-worms, and the yellow wire worm. The acre was planted with corn, and totally destroyed by the worms. Late the ensuing fall, the whole field was manured and turned over, smoothly: the spring of 1848 the whole was sown with barley, which was very much injured by the worms—in many places entirely destroyed. In September it was sown with wheat with the same result as with the barley. In the spring of 1850, we manured it well with fresh barn-yard manure, turned under; harrowed and marked 3¾ feet apart by 2½ and planted corn, four grains in a hill, the first of June. It came up in five to seven days, and is now a very promising piece, as forward as any planted the middle of May.

The seed was soaked in a decotion of a pound of tobacco in four gallons of water. There were plenty of worms in the ground, as I found in planting and hoeing; but they would not touch the tobacco scented corn, while there was not a single weed to be found; and indeed they did no small benefit in destroying the grass and weeds. The field was kept as clean of everything but corn, as it well could be. At the first hoeing I observed a large mullen plant, the leaves of which were eaten through like a riddle, and upon digging around it I found over twenty cut worms. Noah Agard. *Havana, Chemung Co., N. Y.*

Breeding Animals.

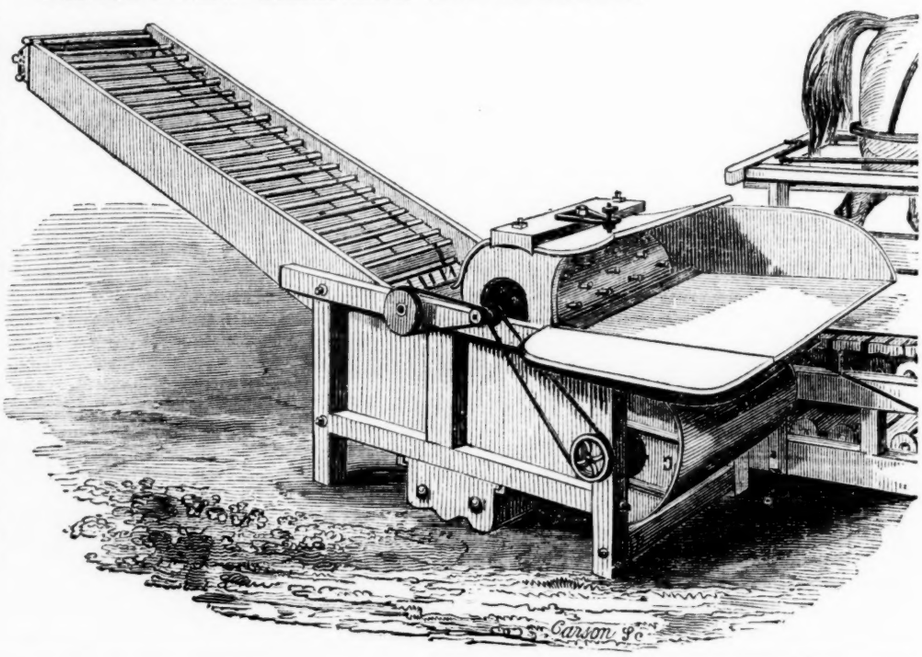
The principles of breeding animals have rather been illustrated than discovered by animal physiology—the very principles of that science having been taught before a single scientific axiom had been applied.

The watching of physiological tendencies, and availing themselves of these judiciously in practice, was long anterior to scientific research. Emulating the skill of the wily progenitor of the Jewish race, and intelligently perceiving what was required, a Culley and a Bakewell attempted and attained the production of sheep, and of cattle, " ring-streaked, spotted and speckled," at pleasure. See-

ing the necessity of economising food, they set about producing those animals which came to maturity early, and so produced vastly more food from the same amount of vegetation. Knowing that fat was an element of favor in a northern clime, they endeavored to obtain animals with a tendency to secrete it in large quantities. In order to this, they observed the qualities indicative of those propensities; and knowing that it is as true in physiology as in mathematics, that like produces like, they selected and bred from these until they stamped their qualities permanently and invariably and indelibly on the race. With these they managed to combine symmetry of form.—*M. M. M., in Far. Mag.*

EMERY'S NEW THRESHER AND CLEANER.

The annexed cut represents a thresher with an apparatus attached to it for cleaning or winowing the grain. It was got up by Messrs. EMERY AND CO., of this city. They have tested its operation throroughly during and since the late harvest, and we learn that it gives entire satisfaction. It cleans the grain ready for market, without waste, as fast as it is threshed. The cost of the cleaning apparatus is about $30 making the cost of the thresher and cleaner, $75.



Remarks on Wheat Culture.

All lands with a subsoil impervious to water, will heave out wheat on the breaking up of winter. It is caused by the surface soil being surcharged with water, which the night frost congeals, forming an infinity of icy pillars raised two or three inches above the surface, with the wheat plants embodied in them, and torn up by the roots; the succeeding day thaws the ice, and leaves the wheat on the surface to perish. Whenever wheat is much heaved out, it rarely escapes the rust, and the crop is either destroyed or greatly injured. The first object of the agriculturist, in such soils especially, should be to draw off the surplus water. He will so plow the fields in lands, that the last furrow on being opened by the plow, after harrowing, will drain off the water. No water should stand on a wheat-field. The spade and shovel should both be freely used. But after all this is done, he will find it only a partial preventive. Sub-soil plowing would be highly beneficial in such cases; as that would give a greater depth for the water to sink from the surface. The sub-soil plow is an important implement of the age. But the most effectual, though it is the most expensive preventive, is under-draining. All the superabundance of water can be readily discharged by under-drains.

Early sowed wheat is less liable to freeze out, than late, but is more subject generally to the attacks of the fly. The Rochester wheat, called in this county, the white chaff bearded, requires to be sowed early—from the first of September till the 20th. The red chaff may be sowed much later on an inferior soil, and succeed well; but the fly is more destructive to it than any other. The Mediterranean wheat so far as it is known to me resists the fly better, than any other kind, and being about 10 days earlier is not liable to rust; but it is much endangered by late frosts in the spring, and it would be advisable, if it be rank in the early part of March, to feed it off with sheep or calves. I greatly prefer the Rochester wheat to the Mediterranean, on a wheat soil that is in good order. But it should never be sowed on fields, which heave out wheat much; or, late in the season. It is highly important to sow wheat in good season, that it may have time to take deep root to resist heaving out and I recommend it to be done if your ground should be considerably too wet. The succeeding winter will prevent its baking. But the same practice would be very deleterious in the spring.—*Mr. Pow's address before the Mahoning county, O. Ag. Society.*

Viewing Farms.

Perhaps the operations of agricultural societies, are in no way productive of more real improvement, than by offering premiums for the best managed farms, especially where the farms are examined by judicious men, appointed for that purpose. J. W. PROCTOR, Esq., writing for the *N. E. Puritan*, remarks, that in reviewing the improvements of the county of Essex, Mass., "no plan appears to have been so successful as that of viewing farms entire, and requiring a statement of their management and produce for several years in succession. This was first introduced under the direction of the late Col. Pickering, and was the means of eliciting many valuable suggestions. This mode of examining farms entire, combines all the benefits accruing from the exhibition of particular subjects, avoiding most of the objections supposed to be incident to such exhibitions. Instances have come to our knowledge

of the application of a large portion of the manure of a farm to a small parcel of land, with a view to ensure an extraordinary crop, which, when grown, would not be worth the value of the manure applied. Accounts of such crops may excite admiration, but they never can be worthy of commendation or premiums. That kind of cultivation which sustains itself and gradually advances the condition of the soil, is the one to be encouraged by our societies."

New-York State Agricultural Society.

New-York State Fair.

The annual exhibition of this Society is to be held the first week of this month. The following is the order for the week:

Monday, Sept. 2.—Entries to be made at the business office on the show grounds at the Bull's Head, between Albany and Troy, and articles arranged.

Tuesday, 3.—Stock, implements and articles received at the show grounds from 8 o'clock until 5 P. M.

Wednesday, 4th.—The grounds *to be open* to the *Judges*, *Exhibitors*, and *Members* only, from 9 o'clock until 5 P. M.; admission fee $1. The Judges will be called at the Society's Tent at 12, and proceed immediately to the discharge of their duties.

Thursday, 5th.—The grounds *will be open to the public* from 8 o'clock until 5 P. M. Single admissions *one shilling*—Members' tickets, $1, which allows the member, his wife and family under 21 years of age, admission during the show. The *Judges* will deliver their reports to the Secretary at the business office by 12 o'clock this day.

Friday, 6th.—Grounds open to the public from 8 o'clock until 5 P. M. The address will be delivered on the grounds at 2 o'clock, P. M., by Prof. Amos Dean, of Albany. The awards will be immediately announced after the address, and premiums paid at the business office as far as practicable, and on Saturday, at the Agricultural Rooms in the city.

The Rooms of the Executive Committee will be at the Delevan House, where guests of the Society, and visitors and delegates, are requested to call.

At the last meeting of the Executive Committee, the following gentlemen were elected Honorary Members of the Society:

Hon. Abbott Lawrence, American Minister, London.
Col. T. Le Couteur, Bellevue, Jersey, England.
Hon. M. P. Wilder, Pres't Norfolk Ag. Society, Mass.
J. S. Skinner, Esq, Editor Plow, Loom, and Anvil, Philadelphia.
Edmund Ruffin, Esq., Marlbourn, Virginia.
John P. Norton, Prof. Scientific Agriculture, Yale College.

☞ The following letter has been received by the President of the State Agricultural Society, from Mr. Fillmore, in reference to his attendance at the Fair. We understand that a letter has also been received from Ex-President Van Buren, signifying his intention to be present on that occasion:—

Washington, August 9, 1850.

E. P. Prentice, Esq.—Sir:—Yours of the 6th instant, inviting me in behalf of the "New-York State Agricultural Society" to attend the Annual Fair and Show, to be held near the city of Albany during the first week in September next, was duly received, and I desire to express my grateful acknowledgments to the Society for their kind invitation, and also to you for the flattering terms in which you were pleased to convey it.

Be assured, that nothing would afford me more pleasure than to be present at the Fair, and witness the fine specimens of the mechanic arts and agricultural productions which will be there displayed. And if the adjournment of Congress and my official duties here will permit my absence from the city sufficiently long to enable me to attend it, I shall with pleasure avail myself of the invitation which has been so kindly extended to me; but I cannot but apprehend that this gratification may be denied me. Very respectfully and truly, your ob't serv't,

Millard Fillmore.

Answers to Correspondents.

Seed of the Locust Tree.—L. A. B. The seed of the locust ripens in the fall. It may be sown in October or November, and will come up the following spring. It requires about the same covering as Indian corn. The seed is enveloped in a very thick covering, from which cause it requires a long time for the moisture to penetrate so as to produce germination; but if planted in the fall, the action of frost will soften the covering so that it will start well in the spring. If the seed is not planted till spring, it is best to pour scalding water on it, letting the seed lie immersed till the water is nearly cool. It will then come up as soon after planting as beans ordinarily do. We do not know a variety by the name of the "white locust."

Lice on Fowls.—N. S. K., Chickopee-Falls, Mass. Any kind of oil or grease will kill lice on fowls; but that which is thin, is most readily applied, and most readily spreads over the body. Dipping the chicks in tobacco-water will kill the vermin, but is likely to make the fowls sick and drooping for a while. Snuff scattered among the feathers, will thin off the lice. As preventives, the apartments where fowls are kept, should be as clean as possible. Wood ashes should be provided for the fowls to dust themselves in, and if flour sulphur is mixed with the ashes, it will be usefull. Sulphur scattered in the nests of setting hens will tend to prevent them from getting lousy.

"Snap-Dragon."—H. W., Sandlake. We are aware that the plant known by this name is rapidly increasing in many sections, and that it is very difficult to eradicate; indeed we have as yet heard of no successful mode of assailing it. If any of our correspondents can tell us of an effectual mode of destroying the pest, they will confer a favor.

Water Cement.—S. E. J., Middlebury, O. The article most in use here is called the Kingston or Rosendale cement. It is sold by W. R. Barrett, of this city, at $1,50 per bbl. The manner of making Roman and several other kinds of mineral cements, is described in the Cultivator for 1849—pp. 239, 240.

Name of Plant.—W. L. C., Chambersburgh, Pa. We do not know the name of the plant you send. We shall make further inquiries in regard to it, and will transmit any information we may obtain.

Wire for Fences.—M. M., Fort Leavenworth, Mo. The best information we can give you on this subject, you will find in our current volume, pp. 144, 145, 244, 278.

Disease in Apple Trees.—J. T. C., Greenville, South Carolina. From the appearance of the leaves you send, we are inclined to think that the malady which has attacked your trees, is similar to that which has appeared in different sections, and commonly called "fire blight." It sometimes attacks the quince, thorn, &c., and is especially destructive to the pear. We believe the best remedy is to cut off the affected branches, and burn them as soon as they show the disease.

Reaping Machines.—The Prairie Farmer says that the immense amount of machinery introduced into the harvest field at the west, will entirely obviate all inconvenience from any apprehended scarcity of help—and that probably not less than 3,500 new reaping machines will be put in use in the north-west the present season—equal to the labor of 17,500 men.

Notes for the Month.

COMMUNICATIONS have been received, since our last, from G. H. Burgess, S. E. Johnston, M. S. Kellogg, J. R. Howard, A Subscriber, D. T., B. A. Hutchinson, N. Agard, C. E. G., H. C. W., Charles Robinson, S. Worden, F. Holbrook.

BOOKS, PAMPHLETS, &c., have been received, since our last, as follows:—

THE FARMER'S EVERY-DAY BOOK, or Sketches of Social Life in the Country, with the Popular Elements of Practical and Theoretical Agriculture, and 1200 Laconics and Apothegms—also 500 Receipts on Hygein, Domestic and Rural Economy, by Rev. JOHN L. BLAKE. Auburn: Derby & Miller. From the author.

THE ILLUSTRATED DOMESTIC BIBLE; by Rev. Ingram Cobbin. Part III. From E. H. PEASE & Co., Albany. This is a beautifully illustrated and admirably arranged edition of the Bible, with brief notes and reflections for family use. To be completed in 25 parts, at 25 cents.

Fourth Annual Report of the Mahoning Co., Ohio, Ag. Society. From J. M. EDWARDS, Esq., Secretary.

D. D., Geneva.—Your communication on Grafting, was omitted till too late for the past season. It is filed for insertion in time for next year.

HAYDN'S GREAT ORATORIO.—"THE SEASONS."—We are pleased to learn that the Harmonia Society of this city, propose to perform, during the evenings of the coming State Fair, the celebrated oratorio of HAYDN, entitled "The Seasons." Nothing could be more appropriate to such a time, when

> "—— Nature, ever kind, rewards
> The pains of virtuous toil,"

than this admirable composition, which has long been considered the master-piece of its world-renowned author. We understand that the officers of the Harmonia, have made arrangements to bring out this oratorio in its perfection. The Society itself numbers over one hundred members, comprising the best musical talent, and they have been for several months engaged in preparing for this performance. They have also engaged for the occasion, thirty picked musicians, mostly from the Philharmonic Society of New York, at the head of which is the eminent composer, Mr. BRISTOW. Other distinguished performers will assist in the different departments; and we have no doubt that the exhibition will afford the highest gratification. It is to be repeated during the evenings of the Fair, (3d, 4th, 5th and 6th,) at Dr. Huntington's Church, Clinton Park.

PRICES of JERSEY CATTLE.—The Secretary of the New-York State Ag. Society has received a letter from Col. LE COUTEUR, of the island of Jersey, in which it is stated that the cost of a yearling bull of the pure Jersey breed would be from £10 to £12 sterling, ($48 to $58) delivered at Southampton, and that a yearling prize heifer would be furnished at from £10 to £15.

SAMPLES OF WOOL.—We are indebted to H. C. MERIAM, Esq. of Tewkesbury, Mass., for various samples of imported wool. They comprise specimens of most of the kinds to which he refers in his communication which we give in this number. We have deposited them at the rooms of the State Agricultural Society, where they may be compared with the different varieties produced in our own country.

HUNGARIAN CATTLE.—R. L. COLT, Esq., of Paterson, N. J., has imported a bull and heifer from Hungary. They are said to be of the breed so highly recommended by Mr. FLEISCHMAN, in the Patent Office Report for 1847. (See Cultivator 1849, p. 59.) Their color is a light dun. They are said to have cost in Hungary $112, which added to the expenses of importation, made them cost at New York upwards of $400. We hope the enterprising importer will be liberally rewarded by the improvement which these animals will be the means of producing.

WORLD'S EXHIBITION, (LONDON,) 1851.—The local committee for the State of New-York, as appointed by Gov. FISH, consists of the following gentlemen:

Hon. Luther Bradish, New-York; E. P. Prentice, B. P. Johnson, Albany; Hon. Jas. Tallmadge, A. Chandler, Charles Henry Hall, New-York; A. Van Bergen, Coxsackie; Wm. Buel, Rochester.

MONTGOMERY COUNTY, PA.—We learn by a letter from S. P. KNOX, Esq., that there is a very flourishing Ag. Society in this county, consisting of about 200 members, and that they are preparing to hold an exhibition this fall. A large portion of the members, Mr. K. informs us, are subscribers to the Cultivator.

"ACCLIMATION OF TROPICAL PLANTS."—Dr. LEE, in the *Southern Cultivator*, complains that some of the remarks on this subject, by our correspondent "C. E. G.," in our July number, are unjust. He quotes the following paragraph:

"So low is the state of society in all the States of tropical regions, that the people do not know the capabilities of the soil and climate which they possess, nor the susceptibilities of the improvement inherent in their fruits and vegetables. Hence, with a soil and climate so much inferior, we yet cultivate melons, tomatoes, squashes, &c., in size and flavor decidedly *superior* to the same fruits cultivated there."

Dr. L. proceeds to comment on the above, by saying that the "statements in regard to melons, tomatoes and squashes, are not true; and what is said about 'the low state of society in *all the States* of tropical regions' is not only untrue, but it is a gratuitous detraction. In reference to soil, taken as a whole, the Southern Atlantic and Gulf States have no superiority over the Northern States, out of New England. In point of climate, they are more favored than any equal area in North America, if not in the world." These remarks of Dr. L. indicate that he had, strangely enough, inbibed the idea that the observations of "C. E. G." were intended to apply to the Southern States of our Union! A simple and self-evident refutation of this unfounded charge, is the fact that none of *our* States lie within, or even border on the "tropical regions," and consequently could not have been alluded to by "C. E. G." The term "States," as used by him, simply signifies countries. A gentleman who edits two papers at the North, and one at the South, and also fills a clerkship at Washington—and, especially one who seeks to preside over a Bureau at the seat of government, ought to be able to define the extent of the tropical regions.

THE RAM'S HEAD IN "THE WOOL-GROWER."—Mr. PETERS states that the vignette at the head of his paper "is the head of an improved Leicester Ram, and a very good one too." Pray, how long is it since the improved Leicester sheep have borne horns? Or how does the cut in the *Wool-Grower* differ from that of a Scotch black-faced ram, which

forms the frontispiece to the work on sheep by W. C. L. Martin?

☞ We understand that L. G. Morris, Esq. has purchased in England, of Jonas Webb, a lot of South Down sheep, and that he also purchased at the show of the Royal Society at Exeter, several fine Devon cattle, all destined for his farm at Morrisania, Westchester county, N. Y.

☞ We are indebted to B. B. Kirtland Esq., of the Catonment Farm, Greenbush, for beautiful specimens of the Red Astrachan apple and Smith's Orleans plum.

The Yellow-Bird.—We think our New Hampshire correspondent is mistaken in regard to the object of the yellow-bird, which he has seen on his fields of winter wheat. We think the bird was seeking the insect called weevil, or wheat midge. It is not singular that the bird should be seen more frequently on bald than on bearded wheat, as it could more readily come at the worm in the former. We have never heard the bird charged with doing injury to wheat, except in districts where the insect prevailed; yet if its object was to feed on the wheat we cannot see why it should not attack the crops of all sections, and also attack spring wheat as well as winter wheat. But the reason why the bird has been seen on the winter wheat more than on spring wheat, in the New England states, is that the former has usually been more subject to the midge—the spring wheat coming in after the period of the attack of the insect had more or less passed.

Seed of the Cane.—(*Arundo ragmites?*)—An article has been going the rounds, stating that a remarkable phenomenon had been exhibited the present season by the "cane-brake" of the south-western States. It was said to have produced seed resembling wheat, and the circumstance was represented as being unaccountable, by any known laws relating to the plant. The seed alluded to was undoubtedly the natural seed of the cane, and that it should resemble wheat need not excite wonder, when it is known that both plants belong to the same natural order—*graminacae*. The following description of the cane, from Flint's *Geography and History of the Mississippi Valley*, will sufficiently explain what to some may have appeared a mystery.

"This beautiful vegetable is generally asserted to have a life of five years, at the end of which period, if it has grown undisturbed, it produces an abundant crop of seed, with heads very much like those of broom-corn. The seeds are farinaceous, and said not to be much inferior to wheat, for which the Indians, and occasionally the first settlers, have substituted it. No prospect so impressively shows the exuberant prodigality of nature, as a thick canebreak. Nothing affords such a rich and perennial range for cattle, sheep and horses. The butter that is made from the cane pastures of this region, is of the finest kind. The seed easily vegetates in any rich soil. It rises from the ground like the richest asparagus, with a large succulent stem, and it grows six feet high, before this succulency and tenderness hardens into wood. No other vegetable furnishes a fodder so rich and abundant; nor, in our view, does any other agricultural project so strongly call for a trial, as the annual sowing of cane in regions too far north for it to survive the winter. We suppose this would be latitude 39°."

Great product of Raspberries.—It is stated that Nathaniel Hallock, of Milton, Ulster county, N. Y., has sent to New York, the present season, ten thousand baskets of Antwerp Raspberries, each basket holding one pint. He gathered seven thousand baskets from one acre, and three thousand from a lot of two acres, which had just began to bear. The prices obtained were from eighteen and three-fourths cents to twenty-five cents a basket.

Cheese Manufacture.—We have given frequent notices of the "cheese factories" so called in the northern part of Ohio. Mr. Geo. Hezlep, of Gustavus, Trumbull county, is one of the pioneers in this business, and pursues it on a large scale. We understand he is this season using the curd from the milk of *one thousand cows*. He takes the curd from the doors of the dairymen in the neighborhood, every day, and pays from 3¼ to 3½ cts. per lb. for it. He makes from 100 to 120 cheeses daily. Mr. H.'s cheese has a high reputation for quality. He has sometimes sent specimens to our State Shows, which have been much commended. We understand that he intends to send his cheese to California, this year.

Hay Caps.—We have frequently spoken of the advantages of hay caps for protecting hay against rain during the process of curing. E. Emerson states in the *Mass. Plowman* that he has used them several years, and has found them of much use in case of storms. He has had hay stand, covered by these caps, four or five days, during which there was a heavy rain, and on opening it, found it sweet and not more colored than it would have been from a heavy dew. He estimated that each cock of hay was enough better to pay the cost of the cap. He makes his cap of sheeting, a yard and a quarter or a yard and a half wide, tears it into squares, and with a tape needle puts a loop in each corner, and they are done. He applies these caps as follows: "Make four sticks about 18 inches long for each cap, let two hands at opposite corners draw the cap down tight over the cock—pass the stick through the loop and *up* (not down) into the cock of hay, and it will stand both wind and rain a month if you wish."

Proposed School of Agriculture.—We learn from a circular received through Mr. B. H. Streeter, of Clyde, N. Y., that Joseph Watson, Esq., President of the Wayne County Agricultural Society, offers his farm, for which he has received the first premium of that society, for the purpose of establishing an institution for education. The course of instruction to be pursued, is to "embrace all the branches of education usually pursued in academies and higher seminaries of learning, with Practical and Scientific Agriculture and Domestic Economy as the leading features of the Institution." The conditions of Mr. Watson's proposition are, that there shall be erected on the farm "suitable buildings and fixtures of the value of $5000, with proper arrangements for the future support of the school, and that the Association shall pay to him or his assigns, during the natural lives of himself and wife, the sum of $300 annually, and after the death of either, the sum of $150, and upon the death of both, the premises to become the property of the Association."

The farm consists of about fifty acres and is estimated to be worth $100 per acre. It is proposed to raise the sum of $5000 in shares of $100 each. We hope these praiseworthy exertions for the promotion of sound education, may be successful.

The Wheat Midge.—The *Rural New-Yorker* observes that "there can hardly be a doubt that this destructive plague has overrun Vermont and the eastern part of this State." The writer observes that he had "indulged the hope that there was some incompatability in our climate and the nature and habits of this great plague, as its prevalence in

the great wheat growing region of the west would be almost equal to war, pestilence and famine." He also expresses the hope that it is "but local and transitory," in the western part of this state, as he has heard of but one instance of its appearance, and has not discovered it in any crops he has examined.

This insect was noticed in some of the eastern States, and in Lower Canada, nearly thirty years ago, and for many years its ravages were such that it occasioned almost an entire suspension of wheat culture in those sections. It has been gradually working its way westwardly; and four or five years since was so numerous in Onondaga and Cayuga counties, as to do much injury to the wheat. It has appeared within a few years in the more western districts of this state and in Ohio,—doing considerhble damage in that state the last season. Its prevalence in the eastern section of the country, has been gradually diminishing for several years; and the notice of this fact has encouraged the farmers to revive the culture of wheat, which in most instances has latterly, and especially the present season, been quite successful.

Prices of Agricultural Products.

[Review of the Market for the last month.]

ALBANY, AUGUST 19, 1850.

We have had another month of dull business, to be followed as is confidently anticipated by all, by an active demand for all kinds of produce from now to the close of the season.

FLOUR. There has been a moderate trade and Eastern demand for flour during the month, and prices of all descriptions have materially declined. This has been hastened by approach of the proceeds of the recent harvest, which in almost every part of the country has been bountiful beyond all former precedent. The sales during the month have been 20,000 brls at $4a4.25 for common State, $4.37½ a4.50 for fresh ground State and mixed to straight Western, $4.50a $4.62½ for fancy western, $4.87½ for fresh State from prime Canadian wheat, $4.87½a$5 for new Western, $5.25a5.37½ for old pure Genesee, $5.50 for new do., $5.75a5.87½ for fancy Genesee and $6a6.50 for extra do. Quotations are very irregular and show a decline of 50c to $1.00 on all descriptions, and the tendency is still to a further decline.

GRAIN. The receipts of new Genesee wheat have been free and the demand for the East and for New-York, is good; the samples received have been good, and those from Onondaga county from which section of the State but little is ordinarily received, are not only of prime qualities but the crop is reported as very large. Of new Western wheat we have no sales to report. The sales of all descriptions are 29,000 bush. at 80c for red Canadian, 92a95 for old Ohio, 125c for old Mediterranean, 140½a125c for old Genesee, 106½ for new Mediterranean, and 130a126c new Genesee, the last sale having been made at the lower figure. In Rye we have no sales to report. Oats have been in fair demand and the market during the month has gradually declined; the sales are 78,000 bush. from store and Canal, closing at 40a41c for good lots, 37½a28c for damaged do, and 38c for Canadian. The demand for corn has been very steady and prices have been uniformly maintained; the sales are 150,000 bush. at 59c for damaged round, 61½a63 for Western mixed and 62a63 for yellow round, closing firm at the inside figures with an upward tendency.

FEED. The demand from the East for all descriptions of feed has been good; the sales have been 80,000 bush. at 10c for Bran, 11a14c for shorts, 14a16½ for second quality and 90a98 for middlings.

SALT. A fair trade demand at 10½a11c for bags and 100c for brls.

WHISKEY. The demand is in excess of the supply, the sales have been 1120 brls at prices ranging from 24¾a26½c for Ohio and S. P. closing firm at the higher figure.

HOPS. We notice light sales of the crop of 1849 at 16c.

WOOL. The sales during the month have been about 100,000lbs. at 32c for lambs, 35c for mixed and 35½a36c for mixed Ohio and Western New-York. The trade has not opened yet. The receipts by Canal are already 1,300,000 lbs. ahead of last year.

PROVISIONS. The trade is exclusively of a retail character and very dull. Quotations are nominal.

South Down Sheep.

THE subscriber offers for sale, this season, several pure bred South Down Rams, varying in age from lambs to 4 years old. Also several Ewes, from one year to four years old.

The Lambs and Yearlings of this flock, are from an imported Ram from the Duke of Richmond's celebrated flock.

Applications for the above Sheep may be addressed to the subscriber in this city. JNO. McD. McINTYRE.

Albany, August 12, 1850—3t

Greenhouse Plants, Vines and Roses.

PARSONS & CO. offer for sale every desirable variety of Greenhouse Plants, and many valuable novelties recently introduced from Europe.

Growers of Grapes are invited to examine their vineries, now in full fruit, from which they can furnish good vines, of about forty varieties, at

50 cents for those one year old,
75 " " two "
100 " " of extra size.

Their stock of saleable Roses includes some thousand on their own roots, of the Remontants, Bourbon, China, and Garden Roses, in their various sub-classes.

Catalogues furnished on application by mail to Flushing, near New York. Sept. 1—2t.

Fruit and Ornamental Trees, &c.

THE subscriber cultivates at his Nurseries, and has for sale at his residence, *Eustis-street*, Roxbury, Mass., all the choice varieties of the Pear, Apple, Plum, Cherry, Peach, and other Fruit Trees, Raspberries, Gooseberries, Currants, Grape Vines, Strawberries, Asparagus Roots, etc., etc., etc.

Also several thousand Pear Trees on the Quince—one, two, three, four and five years from the bud.

Particular attention paid to the cultivation of the Pear.

Persons wishing extra sized trees, *or trees on Quince stock in a bearing state*, will please call at the Nurseries and make their own selection.

30,000 Buckthorn Plants.

ORNAMENTAL TREES, Shrubs and Roses, Herbaceous Plants, Pæonies, &c.

The whole for sale at the lowest market price. Catalogues gratis to post-paid applicants. SAMUEL WALKER,

Roxbury, Sept. 1—3t. *Roxbury, Mass.*

Seneca Lake Highland Nurseries,

Catharine, Chemung Co., N. Y.

E. C. FROST, Proprietor.

FRUIT TREES of all kinds, ornamental Trees and Shrubs, Grape Vines, Hedge Plants, Box for edging, Strawberries, Dahlias, Green House Plants, &c., &c., in large or small quantities.

The Nursery and Standard Trees cover 40 acres.

The following varieties of Apples can be furnished:

THE WAGENER.—For this new variety, the N. Y. State Ag. Society awarded to Charles Lee, Esq., of Yates Co., the place of its origin, the highest premium in 1847, and again in 1848—also procured a colored plate for a frontispiece to its published Transactions and gave it a full description, in part as follows: "TEXTURE—*Fine grained, crisp and juicy.* FLAVOR—*Rich, sprightly, vinous, subacid and delicious.* SEASON—*From October to May, and a prolific bearer.*" By referring to Vol. 7th, page 60th of the Albany Cultivator, it will be seen that I have had the exclusive privilege of Mr. Lee's trees, and have taken scions from his—the original seedling tree—and also from others worked from it in the neighborhood, so that those ordering will be sure of the genuine variety. Price of this variety, 50 cents each, and Scions furnished only in small quantities.

THE HAWLEY or DOUSE.—For *flavor, size* and *productiveness*, this is believed to be the best Fall Apple known, either for dessert or market purposes. A description and outline can be seen in the Cultivator of April, 1847, from which we quote—"*Of all the varieties of Apples which have lately been brought to notice, probably none is destined to become more and deservedly popular than the Hawley or Douse.*" Also in the Horticulturist of July, 1847, Hovey's Magazine of Dec. 1847, and the Genesee Farmer of May, 1848. The latter, in describing it, adds—"*The first time we saw it was at the State Fair at Auburn in 1846, when it was exhibited by E. C. Frost, of Chemung Co., as the Douse. His specimens were monstrous, and we well remember the commotion it created among the pomologists present, to all of whom it seemed unknown.*" Trees 4 years from the graft, 50 cents each. Scions by the doz. or 100.

THE WINTER KING, is a very showy and productive apple, cultivated in this and Tompkins County, where it sells one shilling per bushel higher than that fine and well known variety, the Swaar —25 cts. per tree.

TOMPKINS APPLE.—Origin, Tompkins Co. An outline and description is given in the Horticulturist of Feb'y, 1848. Mr. Downing says—"*A large, handsome and productive autumn fruit, superior in flavor to the Porter. We commend it with confidence to the notice of amateurs and collectors of good fruit.*" Season—October and November—25 cts each.

In addition to the above four new varieties, among other standard sorts, are the following: Early Harvest, Large Sweet Bough, Summer Queen, Fall Pippin, Early Joe, Norton's Melon, Swaar, Baldwin, Northern Spy, Roxbury Russett, Ladies' Sweeting and Newtown Pippin.

Scions.—One or two dozen can be sent by mail with safety to any part of the Union, and larger quantities by public conveyance.

Pears and Plums are not affected with the blight.

Eastern fruit growers can procure Peach trees here, perfectly free from the YELLOWS, a disease to us unknown.

Trees carefully packed, and sent by public conveyance to any section of the U. States and Canadas.

Being on the Chemung Railroad, which connects the New-York and Erie, with the Buffalo and Albany route at Elmira and Geneva, this location for railroad facilities is surpassed by none.

Price Catalogues furnished gratis to all post-paid applicants, containing an engraving and full description of Wagener and Hawley or Douse apples. Sept. 1, 1850—1t.

To Fruit Growers and Nurserymen.

ELLWANGER & BARRY solicit the attention of all Tree Planters, Nurserymen and Dealers to their present stock, which is much larger and better than they have ever before had the pleasure of offering. It embraces among other things in large quantities—

Standard Fruit Trees, of all sorts.

Dwarf and Pyramidal Fruit Trees, for gardens.

Gooseberries, Strawberries, Raspberries, Currants, &c., all the newest and best kinds.

Ornamental Trees, Shrubs, Roses, &c., including all new, rare and desirable articles.

Buckthorn, Osage Orange and other Hedge Plants.

Stocks of all sorts for nurseries.

Green House, Border and Bedding Plants.

Double Dahlias, &c., in immense quantities.

Wholesale prices furnished when desired.

A new edition of the general descriptive Catalogue is now ready and will be sent gratis to those who apply *post-paid*.

Mount Hope Garden and Nurseries, Rochester, New York, Sept. 1st, 1850—1t.

Apple Trees for Orchards.

MANY thousand fine Trees, mostly 7 to 8 feet high, *propagated in all cases from thoroughly proved or bearing trees*, for sale at the nursery of J. J. THOMAS, Macedon, Wayne Co., N. Y.

They embrace the best standard varieties, with nearly all the valuable new sorts; among them are Early Harvest, Sine Qua Non, Sweet Bough, Early Joe, Summer Sweet Paradise, Autumn Strawberry, Gravenstein, Dutch Mignonne, Rambo, Fall Pippin, Yellow Bellflower, Rhode Island Greening, Esopus Spitzenburgh, Northern Spy, Swaar, &c., &c.

Price, varying with selections, from *sixteen* to *eighteen* dollars per hundred—a first rate selection of summer, autumn, and winter fruit, of fifteen to thirty varieties, if made by the proprietor, furnished at *sixteen dollars* per hundred, or *seventeen* if well packed in matted bundles, and delivered at canal or railway. All orders to be accompanied with remittances. Sept. 1—3t.

Prince's

Linnæan Botanic Gardens and Nurseries, Flushing, N. Y.

WM. R. PRINCE & CO., successors of Wm. Prince, and sole proprietors of his great collection, offer the largest and choicest assortment of Fruit and Ornamental Trees and Plants to be found in America, and will transmit Descriptive Catalogues to all post-paid applicants desirous to purchase. The choicest varieties of Fruits, which are scarce elsewhere, are here extensively cultivated, and applicants will not be disappointed. Every desirable fruit enumerated by Downing, Manning, Kenrick, Hovey, and in the Catalogues of Europe, can be supplied. Of the finest varieties of Pears, 50,000 trees can be supplied, of which 15,000 are of bearing age on both the Pear and the Quince. Purchasers are solicited to visit the establishment and judge for themselves, but the same attention will be paid to the selection for all distant correspondents. The prices are as low and mostly lower than trees of equal quality can be elsewhere obtained. And above five hundred varieties of Fruit Trees, and a much larger number of Ornamental Trees, can be supplied, that cannot be obtained elsewhere in the Union, except in a few casual instances. Every premium for Roses and Strawberries was awarded to us by the Long Island Horticultural Society.

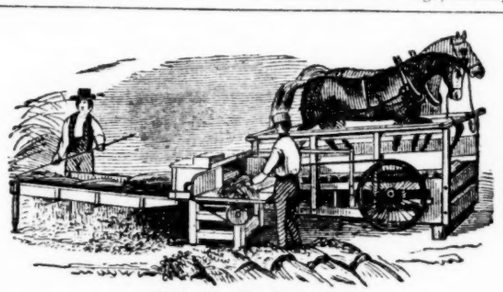
A wholesale Catalogue will be sent to all venders.

The transportation expense to the west is now moderate, and the Agent's Receipt will be sent to each purchaser, which will prevent the possibility of loss. Cash or a reference can be sent with the order, by those who are strangers to us. Sept. 1, 1850—1t.

Brown's Patent Coupling for Hose and Pipes.

THIS valuable invention, (illustrated and described in this number of the Cultivator,) is offered for sale upon reasonable terms, in either Town, County or State rights. For further information address, (post-paid.)

A. HEYER BROWN,
September 1, 1850—1t.* Commercial Buildings, Albany.



Prices Reduced.

WHEELER'S PATENT Rail Way Chain Horse Powers and Threshing machines, constantly on hand and for sale by the subscribers.

Price of one Horse Power and thresher,..... $110
Price of two Horse Power and thresher,..... 135

Also EMERY & Co's LATEST IMPROVED POWERS and THRESHERS and CLEANERS at Manufacturers prices.

JOHN MAYHER & Co.
Sept. 1—tf 197 Water St. New-York.

Buffalo Nursery and Horticultural Garden.

THE Proprietor of this old established nursery solicits the attention of Fruit Growers, Nurserymen and others, to the unusually large stock of FRUIT AND ORNAMENTAL TREES, FLOWERING SHRUBS, &c., now offered for sale.

APPLE TREES.—The assortment embraces nearly all of the most choice and truly valuable sorts worthy of a place in the orchard. [A very large number of varieties have been rejected.]

PYRAMIDAL DWARF PEAR TREES.—The stock on hand is very fine, of from one to three years growth; trees strong and vigorous—among them are the following: Bartlet, Louise Bonne d'Jersey, White Doyenne, Bloodgood, Golden Beurre of Bilboa, Buerre de Arembergh, Flemish Beauty, Seckel, Van Mons' Leon le Clerc, Passe Colmar, Beurre Diel, Fondante de Automne, Onondaga, Beurre Langelier, Duchess d'Angouleme, Napoleon, Glout Morceau, &c. Also a fine assortment of standard Pear Trees of the most select old sorts, together with most of the new varieties.

PEACHES.—Some 5,000 trees, of the best market varieties—among them are the following: Early York, Early Tillotson, Walter's Early, Royal George, George the Fourth, Crawford's Early, Crawford's Late Melocoton, Grosse Mignonne, Walter's Early, Morris Red and White Rareripe, Noblesse, and many other sorts.

CHERRIES.—A fine assortment, mostly trained with low heads, some 50 varieties in all—among them are Black Tartarian, Elton, Downton, Coe's Transparent, Napoleon Bigarrean, Groffan Bigarreau, Knight's Early Black, Beauman's May, Early Purple Guigne, Downer's Late Red, May Duke, Butler's Yellow, &c. &c.

PLUMS.—A very fair stock of the most choice and valuable sorts.

APRICOTS.—Dubois' Early Golden, Moorpark, Breda, Musch Musch, &c.,

NECTARINES.—Boston or Perkins' Seedling, Golden Red, Roman, &c.

ALMONDS.—Ladies' thin shell, and others.

QUINCES.—Large Orange, Portugal, Pear-Shaped, &c.

GRAPES.—The best for the Grapery, and also the best for out door culture.

GOOSEBERRIES.—White Amber, Mammoth and others.

CURRANTS.—Large Red and White Dutch, White Grape, Naples, Victoria, Knight's Sweet Red and others.

STRAWBERRIES. Some 30 varieties, Burr's New Pine, Boston Pine, Large Early Scarlet, Hovey's Seedling, and some others are truly fine and prolific.

RHUBARB.—Early Tobolsk, Victoria, Wisconsin, Mammoth and others.

ORNAMENTAL TREES AND FLOWERING SHRUBS.—A large stock, Mountain Ash, Horse Chestnut, Silver Maples, &c., by the 100 or 1000 at very low prices.

EVERGREEN TREES.—A large collection of most beautiful trees, grown in the nursery. By the quantity, at low prices.

ROSES.—A very good assortment of Hardy Garden, Hybrid, Perpetual, Bourbon, Noisette, Moss and others.

HERBACEOUS PLANTS.—Many choice sorts—some beautiful new Phloxes, Tulips, Hyacinths, Dahlias, Peonies, &c., &c.

STOCKS.—Apple, Cherry, Plum and Quince stocks, and Nurserymen and others will be supplied with trees of large or small size at reduced prices.

☞Orders by mail or otherwise will receive prompt attention.

Every article carefully labelled, securely packed and forwarded agreeable to order, and with the least possible delay.

Descriptive Catalogue (a pamphlet of 60 pages) gratis to all who apply, (postage paid.)

B. HODGE.

Buffalo, N. Y., Sept. 1st, 1850—1t.

Chapin's Portable Cider-Mill and Press.

THE advantages of this machine have already been realized in this State, and heretofore laid before the public, certified by a large number of reliable sources. It received, at the State Agricultural Fair at Syracuse in 1849, all the rewards and tokens destined by the Society for that class of implements, besides the constant applause of the crowd. Its utility is beyond a question, and can be warranted a source of positive profit to any one having sufficint employment for such a machine.

It was patented on the 21st of Nov. 1848, and well tried during the same season. It was again tested in the fall of 1849, on several occasions.

The small sized mills, which are designed to be conveyed and operated by hand, are capable of making from 3 to 6 barrels of cider per day, by the help of a man and boy.

The large size, which are drawn by a pair of horses, are capable of making from 12 to 20 barrels per day, with the help of two men and one horse.

The price of a large Mill and Press, and the right of a whole town for making, using and vending, does not exceed the cost of one of the ordinary old fashioned mills. As it is a traveling machine, no sales will be made without designating its limits by the lines of either states, counties or towns. Applications are solicited immediately, and a crowd of references will be furnished.

JACOB M. SWART, of Quaker Street Village, Schenectady Co., N. Y., Agent for Albany, Schoharie and Schenectady counties.

They are principally manufactured by the Patentee,

NATHAN CHAPIN,
Sept. 1, 1850—1t* West end of Warren St., Syracuse, N. Y.

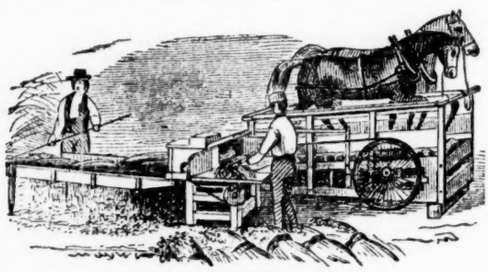
Transactions of the N. Y. State Ag. Society.

TRANSACTIONS of the New-York State Agricultural Society, from 1841 to 1849, eight vols., price $8, for sale at the office of THE CULTIVATOR.

Agricultural and Horticultural Implements, and *Field and Garden Seeds.*

UPWARDS of *one hundred* different kinds of Plows, and a corresponding variety of all other Implements for the Farmer, Planter and Gardener; embracing the largest and most complete assortment to be found in the United States. Also, Field and Garden Seeds, a large and varied assortment. A. B. ALLEN & CO.,

August 1, 1850.—tf. 189 & 191 Water St., New-York.



Emery & Co.'s

Latest Improved Railroad Horse Power, and Overshot Threshing Machine and Separator.

THE above cut represents this most useful machine, with the LATEST IMPROVEMENTS, ☞ *For which Patent is secured*, embracing some of great value and importance—which have suggested themselves from time to time as the various kinds made and sold by us have become worn, used and failed.

The most important of these consists principally in the mode of applying the power and motion from the endless platform to the shaft of the main Driving Pulley, and obtaining the necessary motion for the OVERSHOT THRESHING MACHINE, without crossing bands or intermediate gearings, and at the same time dispensing with the small pinions and cogs on the links of the endless platform, —thereby combining GREATER STRENGTH and DURABILITY with LIGHTER FRICTION, without the liability of breakage of links, or the wearing of links and pinions,—(no small item in the expense of repairs in most other kinds of powers in use.) The farmer or mechanic is enabled to perform a greater amount of work, or to operate with less power or elevation, as best suits his wishes.

Having been long engaged in the Manufacture, Introduction, Sale, &c., of the various kinds of Horse Powers, for different purposes, and at all times adopted such improvements as from observation and experiment have seemed necessary and desirable, we feel confident that in this Power, as now manufactured, all that can be desirable, is found to a greater extent than any heretofore sold by us, or with which we are acquainted, They were introduced to some considerable extent last season, and wherever used side by side with the most approved Powers of other kinds, have given unqualified satisfaction, and been preferred.

The Overshot Threshers and Vibrating Separators, with improvements, have been sold with like success as the Powers. They admit of a level feeding table, thus avoiding accidents, (which often occur with the inclined feeding board,) by preventing hard substances, sticks and stones from getting into the Machine and breaking Spikes, endangering those engaged with them. The Cylinder Shaft, (of Cast Steel,) runs in Bronze Boxes, which are so made of two parts as easily to be adjusted when worn loose, and can with little trouble, always be kept tight. The speed of the Power is such that a larger pulley is used on the Thresher than on most others—driving stronger, with less liability of slipping of Bands, which last are made of Vulcanized India Rubber. The Separator makes a complete separation of Grain from the Straw, leaving it in the best condition for the Fan Mill; thus saving the labor of several men, and doing the work better.

Fan Mills of various sizes, for Hand, or fitted to be driven by the Power, at same time of threshing. Also, Saw Mills in complete order.

The Double Horse Power is capable, with 3 or 4 men, of threshing from 125 to 200 bushels of Wheat or Rye, and the Single one from 75 to 100 bushels, or double that quantity of Oats per day. They are warranted to perform as above, or may be returned to us or our Agents, of whom they were purchased within 3 months, and the purchase money refunded.

They may be had in Rochester, Buffalo, or any of the principal ports on the lower or upper lakes, by adding transportation.

Good agents will attend to the sale of them in those places.

The prices will be, for Single Powers,..... $85 00
" Threasher and Separator,..... 35 00
" Bands, Wrench, Oil Can, extra pieces, 5 00— $125 00
Best Double Machines, Complete, ($25 more on.) 150 00
Fan Mills, from..... $22 to $28
Saw Mill, complete..... $35

Also " Wheeler's" Machines, improved this season,
Single Setts, complete, ... $120 00
Double do. do. 145 00

Terms Cash, or approved Notes or Acceptances, with Interest.

To good Agents in new locations liberal terms will be given.

For further particulars, see new issue of Catalogue, or apply personally or by letter at the

Albany Agricultural Works, Warehouse and Seed Store, of EMERY & CO.

September 1, 1850. 369 & 371 Broadway, Albany, N. Y.

Choice Sheep for Sale.

THE subscriber having determined to quit the farming business, offers his entire flock of Sheep for sale. They have been bred with great care for over 20 years, with a view to make them heavy and fine.

They now shear three and a-half pounds per head, and the wool sold last year, at the Kinderhook Depot, for 47 cents per pound. Specimens of them will be at the State Fair.

Also, one Imported Ayrshire Cow, with her last two calves, both heifers. DANIEL S. CURTIS.

Canaan Center, N. Y., Aug. 1—2t.

Albany Burr Mill Stone Factory.

ADAM R. SMITH, (late of Troy,) having located at the Corner of Broadway and Quackenbush streets, (three blocks above the Delavan House,) ALBANY, N. Y., invites the attention of Millwrights and others to the stock on hand, which, with his facilities for manufacturing, must render it advantageous for them to call upon him before purchasing elsewhere.

He keeps also, a large supply of Bolting Cloth, Screen Wire, Plaster of Paris, and other articles used in Milling, which will be disposed of on liberal terms.

August 1—3t.*

The American Live Stock Insuance Company,

At Vincennes, Ind.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50.000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Mass, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon. Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Treasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Farm and Stock for Sale.

THE subscriber will sell at auction, on the September next, (if not previously disposed of at private sale.) his farm, situated in Westminster, Vt., containing upwards of 200 acres, nearly 100 acres of which is alluvial land of the most productive kind, lying on the bank of the Connecticut river. He will also sell at the same time, the live-stock of said farm, consisting of about sixty head of superior neat cattle, mostly Devons, thirty South Down sheep, and fifty swine of Suffolk, Middlesex and Essex breeds.

Among the Devon cattle, are one very fine bull, two years old, imported from England; another, seven years old, purchased of Geo. Patterson, Esq., of Maryland; another, one year old, bred on the farm. Several of the cows are pure Devons of the very best blood and quality, and the whole lot were either selected, or bred by the subscriber with great care. Of the South Down Sheep, six were imported—others were purchased of Hon. Daniel Webster and Col. J. M. Sherwood; and these, with their descendants, constitute the flock. The older swine were mostly imported, and comprise the best specimens of their respective breeds which could be obtained in England. Their stock has now become well known in this part of the country, and is so much esteemed as to need no praise here.

Boston, Mass., August 1—2t. WILLIAM STICKNEY.

Drain Tile Works,

63 Jay Street, North of Salamander Works, Albany.

THE subscriber is now manufacturing and prepared to fill orders for Horse Shoe, Sole, Round and Collar Drain Tile, of various sizes, from one to four inches in width and rise. The tile is cut sixteen inches in length, and will be of a superior quality. The price will vary according to the size and shape, from $10 to $16 per thousand. Specimens of the article with the prices will soon be distributed to all the agricultural stores in the State. Presidents of county societies adjoining the river and canals, will please send their address with directions to whom a box containing the different sizes of Tile will be forwarded free of charge.

July 1, 1850—tf. A. S. BABCOCK.

Agricultural Warehouse and Seed Store.

No. 197 Water street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an " illustrated " Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

May 1, 1850—tf. JOHN MAYHER & CO.,

Poultry Books.

THE American Poulterer's Companion, by C. N. BEMENT—price $1.

The American Poultry Yard, by D. J. BROWNE and SAMUEL ALLEN—price $1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

For sale at the office of THE CULTIVATOR.

Hay, Straw, and Corn Stalk Cutters.

THE Celebrated Patent Adjustable, Spiral Knife Hay Cutter. Premium Straight Knife Hay Cutter. All sizes, for Hand or Horse Power. Warranted.

Mediterranean Seed Wheat, of a choice quality and pure. This wheat is coming into very general use, and is much approved of.

Also, other varieties of Winter Wheat and Rye.

For sale at the Albany Agricultural Warehouse and Seed Store,
369 & 371 Broadway, Albany.

August 1, 1850. EMERY & CO.

Wire for Fences,

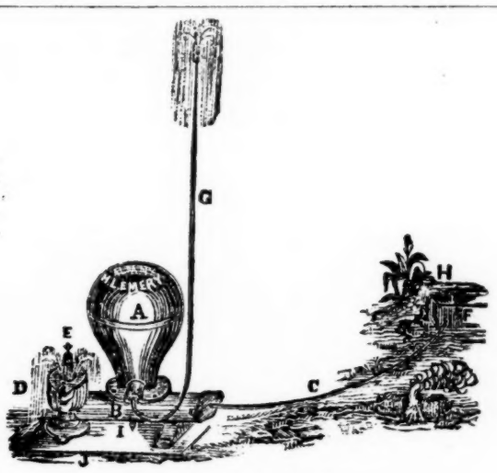
ALSO Staples ready made, by the pound, at price of wire and 4 cents per hundred staples for making, (machine made.)

Our Wire is of the best quality of iron, used by our Telegraph Companies, &c., which needs no annealing whatever, in being worked.

It is a fact acknowledged by all wire manufacturers, that the process of annealing iron wire opens its pores to the effect of the atmosphere, lessens its weight 12 to 15 per cent., lessens its tenacity for tension 33 per cent., and destroys its elasticity. Fence makers will find it much cheaper to use tough, bright wire, in all cases, even at one to three cents per pound extra, than the cheaper qualities of iron at their va'ue, which require annealing to be used.

Nos. 7, 8 and 9, for 5½ cents; Nos. 10 and 11, for 6 cts per lb.

August 1, 1850. For sale by EMERY & CO., Albany.



Hydraulic Water Rams.

THIS simple apparatus for elevating water from a spring or brook, has now been very extensively and favorably introduced, and enables the persons having a good spring of water below their buildings, to have a constant, never failing stream of water at any place desired, and so long as water will, of its own gravity, run down hill, so long it may, by this simple machine, be made to run up hill to any desired elevation. Full directions accompany each machine, enabling the purchaser to put them in operation himself, and all are warranted to operate satisfactorily. Price from $8 to $25. For sale, wholesale and retail, at the

Albany Agricultural Warehouse of
EMERY & CO,

Aug. 1, 1850. 369 & 371 Broadway, Albany, N Y.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN of Massachusetts. Two large octavo vols.—price, neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Wire for Fences.

IRON WIRE FOR FENCING, constantly for sale at New-York prices. Z. HOSMER,

April 1, 1850—6t. 110 Milk St., Boston.

The Farmers' Encyclopedia,

BY C. W. JOHNSON. Adapted to the United States, by G. EMERSON, Philadelphia, 1850. In one large octavo volume, 1173 pages, containing the latest discoveries and improvements, in Agriculture, with numerous plates of Live Stock, Farming Implements, &c.

"We are fully convinced that such an amount of valuable knowledge for farmers can be found in no other work in so cheap and convenient a form. In fact, no farmer who pretends to be well informed in his profession should be without this book."—*New Genesee Farmer.*

"An excellent work, fit to be distributed in premiums by Agricultural Societies. How much better, and in better taste, than the amount of its cost in money."—*J. S. Skinner.*

Sold by L. TUCKER, Albany; A. HART, Philadelphia; DERBY & Co., Buffalo; W. D. TICKNOR & Co., Boston; and the principal booksellers in the Union. Price $1. (Cost of the imported work in 1 vol. *without any plates*, $14.) July 1—tf.

Importation and Sale of Stock.

MR. L. G. MORRIS, of Mount Fordham, Westchester County, N. Y., left New-York on the 17th April, for Europe. One of his main objects is to obtain agricultural information generally, and especially to purchase such domestic animals as are calculated to improve the stock of the United States, He purposes to attend the sale of the Short-horn cattle belonging to the estate of the late THOMAS BATES, Esq., of Kirkleavington, Yorkshire; but will not confine his purchases to that herd. He expects to return to America in September next, and the second annual sale of cattle from his own herd, will take place in October. Whatever stock he may import, will be at his place at the time of sale. Printed catalogues of the animals to be sold, will be issued in due time.

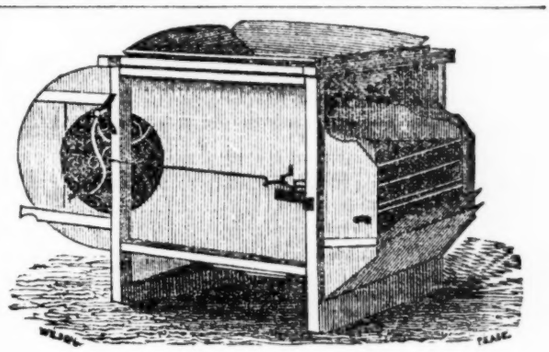
June 1. 1850—4t.

The Old Gifford Morgan,

THE highest blooded Morgan Stallion now remaining, will stand the coming season at the stable of Benjamin Gates, in Walpole, N. H. Terms $25. $5 of which to be paid at the time of service, and the remaining $20 if the mare prove in foal.

Pasturage furnished on reasonable terms. A. ARNOLD,

Walpole, May 1—5t.* Agent for the Proprietors.

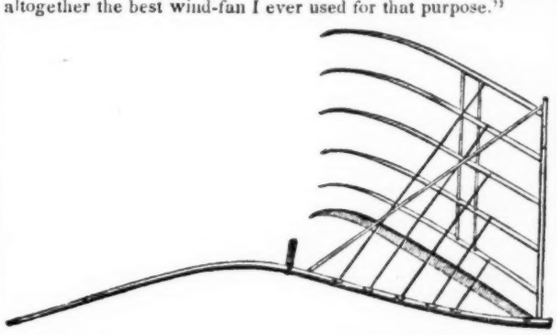


I. T. GRANT & CO.'S

PATENT *FAN MILLS AND CRADLES.* We continue to manufacture these celebrated Mills and Cradles.

They have been awarded six first premiums at the New-York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr. Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s, published in the Transactions of the N. Y. State Ag. Society, for 1847, it will be seen that they were tried by several large farmers, and highly approved. One farmer, it is stated, set aside an almost new winnowing machine, for which he paid £18, ($90) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat, and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—"The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—"Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."



Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.

The great encouragement we have received from dealers and agriculturists, has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention. I. T. GRANT & CO.

Junction P. O., Rens. Co., 8 miles north of Troy

May 1, 1850—tf.

Contents of this Number.

Nutritive Properties of the Apple,..... 289
Foreign and Domestic Wool, by H. C. MERIAM,..... 291
Sheep Husbandry of Washington county, N. Y.,..... 293
History of Short Horned Cattle,..... 295
On the Importance of extended Chemical Investigations by Prof. J. P. NORTON,..... 296
On Plows and Plowing, by F. HOLBROOK,..... 297
Chapin's Portable Cider Mill and Press—Brown's Coupling for Pipes and Hose,..... 299
The Potatoe Disease, by C. E. G..... 300
Irrigation of Gardens—Striped Bugs—American Pomological Congress—The Michigan or Prairie Rose, by D. T.,..... 301
Belle Magnifique Cherry, and Native Fowers, by D. T.—The Cherry Bird—To Winter Bourbon Roses,..... 302
Cutting off Leaves of Plants and Virgilia lutea, by D. T.—Corrections of last Number—Rose Cuttings—Domestic Economy, Recipes, &c.,..... 303
Review of Downing's Country Houses,..... 305
Notes on Farming in Ohio, by J. R. HOWARD—Crops in Seneca Co., &c., by J. JOHNSTON,..... 308
The Power of Steam—The Food of Plants,..... 309
Water for Irrigation—Cultivating Stiff Soil,..... 310
Pipes for Water, by R. A. HUTCHINSON—Preserving Corn from Worms, by N. AGARD—Breeding Animals,..... 311
Emery's New Thresher and Cleaner—Culture of Wheat—Viewing Farms,..... 312
New-York State Fair—Answers to Correspondents,..... 313
Monthly Notices—To Correspondents, &c.,..... 314

ILLUSTRATIONS.

Fig. 195, 196—Ruggles, Nourse, Mason & Co.'s New Stubble and Sward Plows,..... 298
197—Chapin's Portable Cider Mill and Press,..... 299
198 199—Brown's Coupling for Pipes and Hose,..... 299
200—View of Floral Hall at Syracuse,..... 304
201—A Bracketed Farm House,..... 305
202 203—First and Second Floors of same,..... 306
204—Emery's New Thresher and Cleaner,..... 312

Commercial Garden and Nursery of

PARSONS & CO.,

Flushing, near New-York.

THE proprietors of this establishment offer for sale their usual assortment of Fruit and Ornamental Trees, Shrubs, Vines, Roses, &c.

Their stock of Apples and Pears is finer than they have before offered. Also Pears on Quince, of their own growing.

The Ornamental department contains the usual well known varieties, and all the best new Trees and Shurbs, for lawns and arboretums, including the new Pines, Araucaria Imbricata, Cryptomeria Japonica, with Cedar of Lebanon, at one to two dollars each; and Cedrus Deodara, of various sizes, at one dollar per foot.

Catalogues furnished gratis on application by mail. Sept. 1—2t.

Great Sale of Fruits at Auction.

The Whole Stock of a Nursery to be Sold at Auction,

THE Proprietors of the LAKE ERIE NURSERY, Cleveland, Ohio, being about to make a change in their business, will sell their entire stock of Fruit and Ornamental Trees, Shrubs, Roses, &c. &c., at Public Auction, and without reserve, on the 9th and 10th days of October

The collection embraces all the choice leading, and new varieties of Fruits, rare Ornamental Trees, Shrubs, &c., and in extent of variety and correctness to name, is probably surpassed by no Nursery at the West.

The stock of Pears on free stocks, and dwarfed on Quince, is very good, and also Cherries, Apples, Peaches, Plums, Grapes, Quinces, Currants, Raspberries, &c., &c.

Among the Ornamental Trees and Shrubs, there are plants from one year's growth to an extra size, and the stocks of Mountain Ash, Scotch Larch, Deciduous Cypress, Norway and Silver Maples, European Lindens, Horse Chestnuts, Kentucky Coffee Trees, Garland Deutzia, Daphne Mezereon, Monthly Chinese Evergreens, and Tree Honeysuckles, &c., &c., are especially good.

The stock of Evergreens is large, and most of them having been twice transplanted, they are in an excellent condition to be removed.

The sale will be made in lots of from 10 to 100 trees or plants in each lot. The correctness of varieties may be relied upon, and purchasers can have the privilege of removing their trees at any time previous to the 20th of May, 1851.

The purchaser can dig and remove his trees himself, or the proprietors will do it for him, charging him the usual price of packing, &c.

The terms of sale, unless otherwise agreed upon with individuals will be as follows—

For all sums under Twenty Dollars, cash.

Over Twenty and under Fifty, 30 days.

Over Fifty and under One Hundred, 4 months.

Over One Hundred, six months, approved Notes payable at Bank.

Catalogues will be issued about the 15th of August, which we shall take pleasure in forwarding to any persons who may desire. All communications of enquiry, &c., addressed to the subscribers will meet prompt attention. ELLIOTT & CO.,

Sept. 1—1t Lake Erie Nursery, Cleveland, O.

Fruit and Ornamental Trees,

at the Nursery of J. J. THOMAS, *Macedon, N. Y.*

MOST of the Trees are of large, handsome, and thrifty growth, and they embrace careful selections of the best sorts of Apples, Peaches, Pears, Cherries, Apricots, &c., with the smaller fruits.

When purchasers desire, selections will be made by the proprietor, so as to afford a regular succession of the best varieties throughout the season; and all may be relied on as strictly true to their names, *the proprietor having for the past fifteen years invariably adhered to the rule of selling none but* THOROUGHLY PROVED *sorts.*

A carefully assorted collection of hardy Ornamental Trees, Shrubs, and Herbaceous Perennial Plants, furnished at moderate prices.

Trees for canal and railroad well packed in bundles, enclosed in strong mats, with roots mudded and encased in wet moss, so as to preclude all danger of injury.

All communications, *post-paid*, to be directed Macedon, Wayne Co., N. Y. Sept. 1—3t.

To Nurserymen, Dealers, and others.

THE subscriber offers for sale at the *American Botanic Garden and Nursery*, Waterloo, Seneca Co., N. Y., (4½ miles northwest of Waterloo, on the Vienna road):—

20,000 American Balsam Fir.

10,000 Spruce, Red, White, &c.

Also various other Native and Foreign Trees, Shrubs and Herbaceous Plants, together with a choice selection of Fruit Trees.

Native Trees and Plants to order.

Orders promptly executed, and Trees and Plants packed for safe transportation to any part of the United States, Canada and Europe.

Sept. 1—2t. W. S. DELL

Allen's Improved Portable

Railroad Horse Power, Thresher and Separator.

THE advantages of the above horse powers are—1. They occupy but little more space than a horse. 2. They can be moved by the weight of the horse only, by placing the machine at an angle of 10 or 15 degrees. 3. They are easily transported, simply constructed, not liable to get out of order, and move with little friction.

The Overshot Threshers consist of a small spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motion of the horse and machine by means of a brake, by which accidents are avoided. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c. drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain, but throws it within three feet of the machine. 4. This arrangement also admits of attaching a *separator*, high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact, and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

Price of single Power,..... $80
" " Thresher,..... $28
" Separator and fixtures,..... $7
" Bands for driving, etc.,..... $5
" Wood-sawing machine, complete, and in running order,..... $35

Price of double Power,..... $100
" with Thresher, Separator, &c.,..... $145 to $150

All the above are sold singly or together, as desired, and are warranted to work well and give satisfaction.

A. B. ALLEN & CO.,

Aug. 1—2t. 189 & 191 Water Street, New-York.

THE CULTIVATOR

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